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Environmental Assessment

Waste Treatment Facility

OWMC
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Waste Management
Corporation

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INTERIM PHASE 3 TECHNICAL REPORT
SITE SELECTION

M.M. Dillon Limited

October 1986

DILLON
Consulting Engineers & Planners

OUR FILE:
YOUR FILE:

October 15, 1986

Ontario Waste Management Corporation
2 Bloor Street West
11th Floor
Toronto, Ontario
M4W 3W2

Attention: Dr. B.D. Mitchell,
Director of Corporate Planning and Development

Re: Interim Phase 3 Technical Report - Site Selection

Dear Sirs:

We are pleased to submit our report entitled Interim Phase 3 Technical Report - Site Selection. This report provides the technical documentation of the role assumed by a team of site selection consultants in the identification of candidate areas. It also addresses the major reasons for the conclusions reached by the site selection team.

Yours truly,
M.M. Dillon Limited

David P. Lawrence, M.C.I.P.
Site Selection Manager

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INTERIM PHASE 3 TECHNICAL REPORT - SITE SELECTION

TABLE OF CONTENTS

		Page
EXECUTIVE SUMMARY		i
1.0	Introduction	1
1.1	Purpose	1
1.2	Background	1
1.3	Scope and Division of Responsibilities	3
1.4	Report Format	6
2.0	**Approach**	
2.1	Introduction	7
2.2	Site Selection Principles	7
2.3	Combinations of Treatment and Disposal Components	13
2.4	Identification of Factors	13
2.5	Data Collection and Analysis	14
3.0	**Factors - Characteristics and Distinctions**	
3.1	Introduction	19
3.2	Hydrogeology	19
3.3	Atmospheric Dispersion	22
3.4	Surface Water	25
3.5	Transportation	28

TABLE OF CONTENTS - Continued

		Page
3.6	Agriculture	31
3.7	Publicly-Held and Industrially Designated Lands	35
3.8	Urban Built-up Areas	37
3.9	Rural Population Densities	40
4.0	**The Selection of Candidate Areas**	
4.1	Introduction	42
4.2	Candidate Area Selection Process	42
4.3	Stage 1 - Determine Role of Factors	44
4.4	Stage 2 - Exclude Areas for All Components	62
4.5	Stage 3 - Exclude Areas for Individual Components	70
4.6	Stage 4 - Complete Maintenance of Choice Analysis	70
List of References		

LIST OF FIGURES

	Page
Figure 1.1 Candidate Areas	2
Figure 4.1 Areas Excluded for All Facility Components	Pocket at back of Report

LIST OF TABLES

		Page
Table 1.1	Site Selection Consultants	5
Table 2.1	Factors Employed in the Identification of Candidate Areas	15
Table 4.1	Candidate Area Selection Process	43
Table 4.2	Potential Roles for Factors	46
Table 4.3	Factor Role	47
Table 4.4	Excluded Areas - Characteristics	Pocket at back of Report
Table 4.5	Summary Reasons for Exclusion	63
Table 4.6	Candidate Areas - Characteristics	Pocket at back of Report

Appendix A

Factor Sheets

Appendix B

Table B.1 Characteristics of Hydrogeologic Classes

Appendix C

Characteristics of Excluded Areas Compared to All Candidate Areas

Appendix D

Role of Public Consultation Program

EXECUTIVE SUMMARY

PREFACE

This Executive Summary presents highlights of the report entitled Interim Phase 3 Technical Report-Site Selection.

This report was prepared by the consulting firm of M.M. Dillon Limited (Dillon) on behalf of the Ontario Waste Management Corporation (OWMC). Reference should be made to the main body of the report for a more detailed documentation of the process by which candidate areas were selected. This report represents the synthesis of the technical contributions of a number of other site selection consultants. More detailed descriptions of the roles of the other site selection consultants are given in a series of separate documents listed in the References of this report.

PURPOSE AND BACKGROUND

The purpose of this report is to provide the technical documentation of the role assumed by a team of site selection consultants in the selection of candidate areas.

OWMC has adopted a five-step approach for the selection of an environmentally safe and suitable location or locations for establishing its special waste treatment and disposal facilities. These steps are as follows:

Step 1: Narrow the search to a geographic region in Ontario;

Step 2: Identify candidate areas suitable for each facility component within this geographic region;

Step 3: Identify candidate sites within candidate areas;

Step 4: Evaluate candidate sites and select preferred site(s);

Step 5: Test and evaluate preferred site(s) in detail.

Step 1 is documented in the OWMC Phase 1 (1982) and Phase 2 (1983a) Reports. Step 2 (Phase 3A), the selection of candidate areas within the

geographic region, is highlighted in the OWMC Interim Phase 3 Report (1983b) and detailed in this report.

SCOPE AND METHODS

The Phase 3A site selection process was shaped and defined by a series of principles, factors and specific assumptions regarding combinations of treatment and disposal components. The site selection process involved a team of site selection consultants and OWMC staff. The methods employed in Phase 3A pertained to the identification of site selection factors, the collection and analysis of data, and the application of factors to identify candidate areas.

Site Selection Principles

As described below, a series of general site selection principles were identified to guide the site selection process:

- the principle of a progressive refinement of the search process is reflected in the five-step evaluation process narrowing the focus from the whole province to a geographic region, to candidate areas, to candidate sites and to a preferred site(s). Each step involves the generation and evaluation of a range of alternatives and successively narrows the geographic focus while increasing the level of detail of study;

- OWMC has adopted the very broad and inclusive definition of the environment used in the Ontario Environmental Assessment Act (1975) to ensure that all potential impacts are addressed. This definition includes social and economic considerations in addition to natural environmental features;

- the primary considerations in the site selection process must be the protection of human health and the environment. The search process has been designed to minimize both the likelihood and the magnitude of exposure to special wastes;

- affected agencies, organizations and individuals must be consulted at key decision points in the process. OWMC is committed to the involvement of those affected through a thorough public consultation program;

- to ensure efficiency and effectiveness of the site selection process, OWMC has adopted a systematic, multi-staged search and selection process which focusses available resources on critical issues and tradeoffs.

The following principles shaped the procedure for identifying candidate areas:

- a second level of protection of the environment beyond that provided for by the design and operating procedures of the facility is essential. In order to ensure a second level of protection, the search process begins with a description of the elements of the physical environment and then distinguishes areas within the Golden Horseshoe based on their suitability to provide a second level of protection;

- the principle of likelihood of suitability refers to the likelihood of finding suitable conditions for the siting of the OWMC facility within the candidate region. Areas given higher priority ratings appeared more likely to contain suitable conditions for the siting of facility components.

- the desirability of maintaining a diversity of siting choices meant that as exclusions were made, there was an awareness that no significant or unique alternatives were being discarded.

Combinations of Treatment and Disposal Components

The possible combinations of treatment and disposal facility components considered in Phase 3A were the same as those identified in the OWMC Phase 2 Report. These combinations are listed in the Premises section of this Executive Summary.

Site Selection Factors

Factors are the criteria used to exclude unsuitable areas from facility sitings. The definition and significance of each factor and the way it was applied is detailed in Chapters 3 and 4 and Appendix A of this report.

Roles and Responsibilities

This report was prepared by M.M. Dillon Limited on behalf of OWMC. M.M. Dillon Limited was technically responsible under the guidance of OWMC for the co-ordination and synthesis of the Phase 3A site selection activities carried out by a team of consultants specializing in hydrogeology, surface water, air quality, transportation, land use and agriculture.

The division of responsibilities among the various participants in the Phase 3A site selection process generally took the following form:

- the site selection co-ordinating consultant (Dillon) formulated the general framework, the site selection procedures, and the site

selection principles in consultation with the other site selection consultants and OWMC staff;

- the public consultation program for site selection was developed by OWMC with advice and input from the site selection consultants;
- the site selection consultants identified a preliminary set of factors. These factors were reviewed and refined with the site selection consultants and OWMC staff;
- the site selection consultants carried out the collection and analysis of data. They also documented the data collection process;
- once agreement was reached by the site selection team regarding factor application, recommendations were put forward to OWMC management. The final product of these discussions was a consensus between the site selection consultants and OWMC regarding the application of factors;
- subsequent to the release of the OWMC Phase 3 Interim Report, the site selection consultants prepared technical reports documenting their respective roles in the site selection process;
- all site selection team conclusions, recommendations and reports were presented for approval to OWMC management.

Site Selection Process

The site selection process occurred in five stages:

- determine exclusionary/non-exclusionary factors and basis for role;
- exclude areas for all components;
- exclude areas for individual components;
- complete maintenance of choice analysis.

The process began with a review of each factor used. Public input (See Appendix D) was an important consideration in factor application. In some instances, identified constraints provided an adequate basis for the exclusion of areas entirely or for particular facility components. In other cases the constraints potentially provided the basis for excluding areas, but because of data accuracy, mapping precision, or arbitrary boundary considerations, areas could only be excluded if there were combinations of constraints or if an adequate range of siting opportunities was retained. Finally, some factors were identified as only appropriate for addressing maintenance of choice matters.

Having established the role of each factor, the next step was to identify areas which could be excluded from consideration for all components. In some instances, individual constraints provided a sufficient basis for the exclusion of areas. In other cases, it was necessary to consider combinations of constraints or constraint(s) in conjunction with maintenance of choice considerations.

The remaining areas were then evaluated for their suitability for various facility components. These distinctions were largely based on hydrogeologic and air dispersion environmental requirements. Maintenance of choice considerations, however, also played a role in the analysis.

The final step consisted of reviewing the siting opportunities maintained by the candidate areas and lost by the excluded areas.

PREMISES

Combinations of Treatment and Disposal Components

The possible combinations of treatment and disposal facility components considered in Phase 3A were the same as those identified in the OWMC Phase 2 Report. They include:

- a fully integrated facility comprised of an engineered landfill, a physical/chemical treatment plant, and an incinerator all located at the same site;
- dispersed facilities comprised of an engineered landfill, a physical/chemical treatment plant, and an incinerator each located at a separate site;
- partially dispersed or partially integrated facilities comprised of an incinerator at one site and an engineered landfill and a physical/chemical treatment plant at another site;
- partially integrated facilities comprised of an engineered landfill at one site and a physical/chemical treatment plant and an incinerator at another site;
- partially integrated facilities comprised of a physical/chemical treatment plant at one site and an engineered landfill and an incinerator at another site.

Other Site Selection Consultants

This report synthesizes the site selection activities of a team of consultants specializing in such fields as hydrogeology, surface water, air quality, transportation, land use and agriculture. The references for the technical reports prepared by these consultants are listed at the back of this report.

POSTULATES

The site selection principles guided and shaped the Phase 3A site selection process.

The site selection process was designed to be iterative in nature. Thus as each step in the process was completed, the implications of the analysis for previous site selection stages was considered. In addition, the implications of the analysis and conclusions for future site selection steps was addressed through the consideration of the extent to which a diversity of siting opportunities was maintained.

STATUS OF DATA

The data employed in Phase 3A site selection were largely obtained from secondary sources, air photo interpretation and limited agency contact.

The Phase 3A data collection, analysis and interpretation process focused on the following:

- o readily available and accurate data sources;
- o features and environmental characteristics representing major adverse risks or impacts (sufficient for the exclusion of areas);
- o potential risks and impacts difficult to overcome or significantly reduce.

FINDINGS

(i) Stage 1 - Determine Role of Factors

The following factor roles were identified: exclusionary, potentially exclusionary, non-exclusionary-maintenance of choice role, non-exclusionary -no maintenance of choice role. The bases for these roles pertains to the

site selection principles, the level of confidence in the accuracy of the data and the degrees of precision and arbitrariness with which the data could spatially delineate suitable from non-suitable areas.

With respect to the hydrogeologic factors, the following was concluded:

- lands within hydrogeologic Categories 3 and 4 should be excluded for all facility components;
- hydrogeologic Categories 1C and 2B should be excluded for landfills;
- the search process should not be limited to Class 1 soils; however, Classes 2A and 2B areas should only be retained if they possessed offsetting advantages;
- Area A-1 should be subject to more detailed hydrogeologic investigations.

It was concluded that all areas subject to one or more atmospheric constraints should be excluded for incinerator siting purposes. However, because of the approximate nature of the atmospheric constraint boundaries, the maintenance of choice implications of potentially excluded areas were to be reviewed. It was further concluded that atmospheric constraints were to be treated as potentially exclusionary for all facility components. However, because the atmospheric constraints primarily applied to the incinerator, particular consideration was to be given to other factors and to maintenance of choice principles.

With respect to the surface water factors it was concluded that it would be inappropriate to exclude areas based on proximity to Category 1 surface water areas. It was further concluded that the proximity differences from Category 1 surface water areas were too limited for surface water constraints to assume a maintenance of choice role.

In considering the two transportation indicators, travel time from theoretical centroid and travel time from 400-series highways, it was recognized that there was no clearly defined threshold of suitability. It was noted that there were clear differences across the candidate region and that risks and impacts tend to increase with travel time. Because of differences in accident rates and the closer proximity of sensitive uses, risks and impacts along non-400-series highways tend to be greater. It was, therefore, concluded that transportation constraints could be treated as potentially exclusionary. In the absence of clear thresholds of suitability, however, it was also concluded that areas should only be excluded if siting opportunities for other factors were maintained.

The agriculture factor encompassed three agricultural parameters - soil capability for common field crops, specialty agricultural crops and various use intensity and economic performance indicators. The role of each of these parameters varied in candidate area identification.

In the case of soil capability for common field crops (Classes 1 to 7), it was concluded that the data should assume a non-exclusionary maintenance of choice role. It was concluded that specialty crops would only be used to delineate candidate areas in instances where there was a heavy concentration of such uses such that an outer boundary to a broad area could be defined. The smaller scattered areas of specialty crops would, it was concluded, be excluded during subsequent site selection stages. It was concluded that the final agricultural parameter - the use, intensity and economic performance of agriculture - could serve a useful maintenance of choice role.

Locating the facility on publicly owned and/or industrially designated lands would tend to reduce the land use and land ownership impacts associated with the facility. Thus, it would not have been appropriate to exclude such areas. However, it was also concluded that the search process for the incinerator and the physical/chemical treatment plant components should not be limited to industrial and public lands. It was recognized that the suitability of a site for an incinerator or physical/chemical treatment plant was only in part related to its ownership and land use designation. Although it was not appropriate to restrict the search process to publicly-held and industrially designated lands, there was sufficient variety across the candidate region for a useful maintenance of choice role.

It was concluded that urban built-up areas should be treated as exclusionary. It was also, however, concluded that the option of locating the physical/chemical treatment plant on a vacant parcel within the urban built-up area should be retained. This stipulation was intended to enhance the opportunities for locating the physical/chemical treatment plant in a non-agricultural setting.

It was concluded that rural population density differences should not be used to exclude areas since there were no well-defined thresholds of suitability and the data were only available on a municipality basis.

(ii) Stage 2 - Exclude Areas for all Components

A total of 46 areas were excluded for all facility components. The characteristics of the excluded areas and the major reasons for their exclusion are noted below:

- **Hydrogeologic Constraints - A Areas**[1]

  The A areas (EA 1 to EA 27) offer limited likelihood of suitability for any of the facility components[2].

  Hydrogeologic conditions would not provide the natural containment necessary to ensure a second level of environmental protection.

- **Air Dispersion Constraints - B Areas**

  EA 28 is affected by lake breeze, urban heat island and topographic constraints. It is used almost entirely for specialty crops and has a high rural population density.

  EA 29 is affected by both lake breeze and topographic zones of influence. It is used almost entirely for specialty crops. It has a high rural population density and is not hydrogeologically suitable for the establishment of a landfill or a fully integrated facility.

  EA 30, EA 31 and EA 32 were excluded for a number of reasons including: being subject to an air dispersion constraint; the lack of hydrogeologically suitable areas for the establishment of fully integrated facilities; remoteness from the centroid of waste generation; proximity to built-up areas; and high rural population densities.

- **Transportation Constraints - C Areas**

  The 30 minute travel time contour from the 400-series highways was used to exclude EA 33 because: the area affected included no hydrogeologic Class 1 lands; the absence of air dispersion influences in the area was shared by large areas with more suitable hydrogeologic and transportation characteristics; the area affected possessed no offsetting soil capability advantages; the moderate rural population densities of the area were also shared by the more accessible areas with more suitable hydrogeologic conditions; and there are no industrially designated lands in the affected area.

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[1] The A, B, C, and D areas, as well as the boundaries for all 46 excluded areas, are shown on Figure 4.1 (pocket at the back of the report).

[2] OWMC decided to proceed with a further level of hydrogeologic investigations for area A-1 to maximize the opportunities for identifying candidate sites on non-agricultural land.

- **Specialty Crops**

  Only areas EA 28 and EA 29 as previously noted, were rejected.

- **Built-up Areas - D Areas**

  EAS 34 to 46 are completely built-up areas.

  Although there are few opportunities to establish facility components within built-up areas, consideration will be given to industrially designated vacant lands within built-up areas.

(iii) Stage 3 - Exclude Areas for Individual Components

Some of the candidate areas are potentially suitable for all facility components. Other areas are potentially suitable for only one or two components. The major difference is the additional soil depth required for an engineered landfill. This soil depth distinction pertains to all candidate areas to the south of Lake Ontario with one exception - Candidate Area 8. A small area of 2A soils was not retained for consideration for all components because it abutted a large area of Categories 1A and 1B soils with comparable or better air dispersion, transportation, agricultural and land use/land ownership characteristics.

The presence of a single air dispersion constraint was also used to exclude areas for the incinerator. The only areas affected by this constraint are Candidate Areas 1, 2 and 3 in the Milton area. All these areas are constrained by their proximity to the Niagara Escarpment.

(iv) Stage 4 - Undertake Maintenance of Choice Analysis

The environmental and land use characteristics of each excluded area were compared to the characteristics of all 19 candidate areas (Appendix C). This comparison ensured that no area was excluded with more suitable characteristics than the candidate areas and that the resulting range of options would not be too narrow.

The following points emerge from this comparative evaluation of each excluded area against the candidate areas:

- A majority of the excluded areas are clearly unsuitable for the siting of facility components based on the principles established in the search and selection process.

- Although a few of the excluded areas have some desirable characteristics, these characteristics are also possessed by some of the candidate areas.

- The candidate areas offer a diversity of siting opportunities.

CONCLUSIONS

The site selection team considered the procedures employed to identify candidate areas consistent with the site selection principles.

The portions of the candidate region excluded during candidate area identification warrant exclusion from facility development based on the data available.

RECOMMENDATIONS

It is recommended that site areas and eventually candidate sites within the candidate areas be identified. This analysis should include more detailed data collection from primary and secondary sources, including systematic agency contacts and public involvement.

It is also recommended that the design and operations analysis continue to be refined and integrated with the site selection process. It is suggested that particular consideration be devoted to those facility characteristics which could result in major potential risks, impacts and costs.

1.0 INTRODUCTION

1.1 PURPOSE

The purpose of Phase 3 of the Ontario Waste Management Corporation (OWMC) site selection process is to select candidate areas within the Golden Horseshoe and to subsequently select candidate sites within these candidate areas. In May, 1983, OWMC released a report which documented the interim results of Phase 3 (Phase 3A) (OWMC, 1983b). This OWMC report presented the results of the Phase 3 process to date, with particular emphasis upon the identification of candidate areas within the candidate region identified in Phase 2.

This report, Interim Phase 3 Technical Report - Site Selection, prepared by M.M. Dillon Ltd. provides the technical documentation of the role assumed by a team of site selection consultants in the identification of candidate areas (Figure 1.1). It also addresses the major reasons for the conclusions reached by the site selection team and by the site selection co-ordinating consultant, M.M. Dillon Ltd.

1.2 BACKGROUND

OWMC has implemented a five-step approach for the selection of an environmentally safe location or locations for the establishment of its special waste treatment and disposal facilities. These steps are as follows:

Figure 1.1 Candidate Areas

Legend — Components Included

Source: Ontario Waste Management Corporation, March 1984

- Physical/Chemical Treatment Plant Only
- Engineered Landfill & Physical/Chemical Treatment Plant
- Physical/Chemical Treatment Plant & Incinerator
- Integrated – All Components
- (5) Candidate Area Numbers

0 10 0 10
Miles Kilometers

Step 1: Narrow the search to a geographic region in Ontario

Step 2: Identify candidate areas suitable for each facility component within this geographic region

Step 3: Identify candidate sites within candidate areas

Step 4: Evaluate candidate sites and select preferred site(s)

Step 5: Test and evaluate preferred site(s) in detail.

Step 1 is documented in the OWMC Phase 1 and 2 reports. The Phase 1 Report (1982) identified southern Ontario as the area where the majority of Ontario's special waste is generated and identified lands in southern Ontario where geologic and hydrogeologic characteristics were considered to offer a higher probability of locating sites suitable for OWMC facilities. The Phase 2 Report (1983a) identified the geographic region known as the Golden Horseshoe, an area where it was estimated that approximately 70% of Ontario's special waste is generated. Zones 1 and 2 within the geographic region were selected for further consideration. These zones were generally considered to have the most suitable geologic and hydrogeologic conditions for the natural containment of special wastes. By focusing the search on such areas, a second level of protection for the environment beyond that of the engineering measures employed in the design, construction, and operation of the facilities would be incorporated into the search and selection process.

Step 2 is documented in the OWMC Phase 3 Interim Report (OWMC, 1983b) and in this report.

1.3 SCOPE AND DIVISION OF RESPONSIBILITIES

This report was prepared by M.M. Dillon Ltd. (Dillon) on behalf of the Ontario Waste Management Corporation. M.M. Dillon Ltd. was technically

responsible (under the general guidance of OWMC) for the co-ordination and synthesis of the Phase 3A site selection activities carried out by a team of consultants specializing in hydrogeology, surface water, air quality, transportation, land use, and agriculture. Each site selection consultant prepared a separate technical report for each of these subject areas[1]. The names of the firms, the consultant co-ordinators, and the major areas of responsibility of each firm are listed in Table 1.1.

The division of responsibilities among the various participants in the Phase 3A site selection process generally took the following form:

- The site selection co-ordinating consultant (Dillon) formulated the general framework, the site selection procedures, and the site selection principles in consultation with the other site selection consultants and OWMC staff;

- The public consultation program for site selection was developed by OWMC with advice and input from the site selection consultants;

- The site selection consultants identified a preliminary set of factors. These factors were reviewed and refined with the site selection consultants and OWMC staff;

- The site selection consultants carried out the collection and analysis of data. They also documented the data collection process;

- Once agreement was reached by the site selection team regarding factor application, recommendations were put forward to OWMC management. The final product of these discussions was a consensus between the site selection consultants and OWMC regarding the application of factors;

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[1] See References for a list of the technical reports prepared by the individual site selection consultants.

TABLE 1.1

Site Selection Consultants

Firm	Co-ordinator	Major Area of Responsibility
Gartner Lee Associates Ltd.	G. Anderson	o geology o hydrogeology o surface water (Gore and Storrie Ltd.) o atmospheric dispersion (Ontario Research Foundation)
Marshall Macklin Monaghan Ltd.	L. Kentridge	o urban built-up areas o population densities o industrially designated and publicly held land
M.M. Dillon Ltd.	D. Lawrence	o site selection co-ordination
M.M. Dillon Ltd.	J. Crosby	o transportation analysis
Robinson, Merritt and de Vries Ltd.	I. deVries	o soil capability for agriculture o agricultural land use, productivity, and investment

- Subsequent to the release of the OWMC Phase 3 Interim Report, the site selection consultants prepared technical reports documenting their respective roles in the site selection process. The present report documents the role of the co-ordinating consultant, M.M. Dillon Ltd.;

- All site selection team conclusions, recommendations and reports were presented for approval to OWMC management. The site selection consultants concur with the subsequent decisions made by OWMC management.

1.4 REPORT FORMAT

This volume consists of the following chapters:

- Chapter 1 (this chapter) is the Introduction;

- Chapter 2 describes the site selection approach;

- Chapter 3 reviews the major characteristics of and distinctions within each factor;

- Chapter 4 documents the process by which candidate areas were identified.

The appendices which support this report are located at the back of this volume.

2.0 APPROACH

2.1 INTRODUCTION

This chapter provides an overview of the major elements of the approach employed to identify candidate areas. It includes a description of the general site selection principles formulated to guide the site selection process as well as the search and selection principles specific to the identification of candidate areas. The five combinations of treatment and disposal components are also highlighted. In addition, the factors used in the identification of candidate areas are presented.

2.2 SITE SELECTION PRINCIPLES

a) General Search and Selection Process Principles

A series of general principles have been identified to guide the site selection process.

The site selection principles are described below:

i) Progressive Refinement of the Search Process

The site selection must evolve in a series of steps which involve the evaluation of alternatives and the narrowing of geographic focus.

Narrowing the focus from the whole province to a geographic region to candidate areas and to preferred sites is envisioned as a five step evaluation process. Each step involves the generation and evaluation of a range of alternatives and successively narrows the geographic focus while increasing the level of detail of study. Provision has been made for agency and public involvement at each step.

A staged evaluation process:

- o minimizes unnecessary data gathering;
- o allows for agency and public involvement at key decision points;
- o provides a consistent level of detail in the analysis and in the evaluation of alternatives;
- o provides a method of evaluation which is flexible and responsive to new issues and concerns as they emerge.

ii) Definition of the Environment

To ensure that all potential impacts are addressed, OWMC is employing the broad definition of the term "environment" used in the Ontario Environmental Assessment Act[1] (1975). This definition includes social and economic considerations in addition to natural environmental features.

Various aspects of the environment included in this definition will likely assume varying degrees of prominence at different stages in the search process. At each stage, consideration will be given to as many of these aspects as possible. However, less emphasis will be placed on those aspects of the environment which are more appropriately considered at other stages in the process and at other

[1] Although OWMC has adopted the definition of the environment contained in the Environmental Assessment Act, the activities of the OWMC were not subject to the requirements of that Act during Phase 3A.

levels of detail. At each decision point in the search process, the rationale for the retention or rejection of alternatives will be documented.

iii) Protection of Human Health and the Environment

The primary considerations in the site selection process must be the protection of human health and the environment. The search process has been designed to minimize both the likelihood and the magnitude of exposure to special wastes.

Some geographic areas offer greater natural assurance of safety than other areas. Areas will also vary with respect to numbers of inhabitants and sensitive environments potentially exposed to and affected by special wastes.

This focus on protecting the environment recognizes that, even with the most advanced engineering methods, trace levels of source materials may remain in emissions and that a remote possibility exists of a release of special wastes as a result of a spill, a fire or some other unforeseen event. Selection of an appropriate site can offer additional protection for the human and the natural environments.

iv) The Involvement of Those Affected[1]

Affected agencies, organizations and individuals must be consulted at key decision points in the process. OWMC is committed to a thorough public consultation program.

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[1] The role of public inputs in candidate area identification is documented in Appendix D.

v) Efficiency and Effectiveness of the Process

The cost and time involved in conducting a detailed analysis of every conceivable site across the province are prohibitive. Resources must be used to effectively and efficiently conduct a systematic search and selection process which focuses available resources on critical concerns and provides definite conclusions in a timely manner.

OWMC has adopted a systematic, multi-staged search and selection process which focuses available resources on critical issues and tradeoffs. In this way, resources are used efficiently and effectively, the public is provided with definite conclusions in a timely manner, and steps are taken expeditiously to meet an urgent need for facilities while maintaining a high standard of quality and consistency in the search process.

b) Search and Selection Principles - Candidate Areas

The process of identifying candidate areas has been designed to comply with the general search and selection principles described above. The intent of the search process is to identify broad areas within the Golden Horseshoe suitable for the detailed analysis required to identify candidate sites. The procedure adopted for identifying candidate areas has been shaped by the following principles:

i) A Second Natural Level of Protection of the Environment

A second level of protection of the environment beyond that provided for by the design and operating procedures of the facility is essential. The design and operations of the facility are intended to provide a first level of protection of the environment through such measures as encouraging the minimization of wastes generated

and the use of the best proven technology. However, no combination of engineering measures can completely eliminate the potential for release and the uncertainty regarding long term health effects.

Elements of the physical environment such as types of soils can prevent or severely inhibit the escape of contaminants, temper the effects of an accidental spill, and reduce the likelihood of the exposure of people and sensitive receptors.

In order to ensure a second level of protection, the search process begins with a description of the elements of the physical environment and then distinguishes areas within the Golden Horseshoe based on their relative suitability to provide a second level of protection.

ii) Likelihood of Suitability

The suitability of each candidate area should be interpreted as the likelihood of finding suitable conditions for the siting of the OWMC facility within that area. This identification of candidate areas is undertaken at a regional scale. As a result, when the candidate area identification factors are mapped the boundaries of the areas are approximate rather than precise. The area's characteristics are also considered predominant rather than absolute.

For example, in their evaluation of the geologic and hydrogeologic characteristics of Zone 1 and Zone 2 lands in the Golden Horseshoe, Gartner Lee Associates Limited placed a priority on these lands. Areas given higher priority ratings appeared more likely to contain suitable conditions for the siting of facility components. Areas given lower priority ratings appeared less likely to have the geologic and hydrogeologic characteristics suitable for an engineered landfill.

iii) Maintenance of Choice

As decisions on exclusions are made, there must be an awareness that no significant or unique alternatives are being discarded.

Based on the approximate nature of the boundaries and the rankings of the candidate areas, OWMC has adopted a system of checks and balances to ensure that no significant or unique alternatives are discarded at each step of the site selection process. As decisions are made, the following questions are addressed:

- by eliminating a portion of the candidate region from further consideration, are significant opportunities for identifying suitable sites being lost?

- once the candidate areas have been identified, is the remaining range of siting choices too narrow?

When consideration is given to deferring an area because of its remoteness from the centroid of waste generation and the 400-series highways, for example, consideration is also given to other features of the area such as its hydrogeologic, atmospheric dispersion, surface water, agricultural, land use and land ownership characteristics. Areas were then excluded from consideration only if they possessed serious constraints in comparison to the areas retained. In each instance, the rationale for excluding an area is provided. Such areas can be reconsidered if suitable sites are not identified within the candidate areas.

2.3 COMBINATIONS OF TREATMENT AND DISPOSAL COMPONENTS

The possible combinations of treatment and disposal facility components considered in Phase 3A were the same as those identified in the OWMC Phase 2 report. They include:

i) a fully integrated facility comprised of an engineered landfill, a physical/chemical treatment plant, and an incinerator all located at the same site;

ii) dispersed facilities comprised of an engineered landfill, a physical/chemical treatment plant, and an incinerator each located at a separate site;

iii) partially dispersed or partially integrated facilities comprised of an incinerator at one site and an engineered landfill and a physical/chemical treatment plant at another site;

iv) partially integrated facilities comprised of an engineered landfill at one site and a physical/chemical treatment plant and an incinerator at another site;

v) partially integrated facilities comprised of a physical/chemical treatment plant at one site and an engineered landfill and an incinerator at another site.

2.4 IDENTIFICATION OF FACTORS

The factor identification process began with the identification of siting considerations to either:

1. identify suitable or unsuitable areas within the Golden Horseshoe; or

2. indicate broad regional patterns as a means of addressing the maintenance of choice principle.

Two classes of factors were used to identify candidate areas:

- environmental factors - These factors pertain to the routes or pathways through the environment by which human exposure to contaminants might occur. Four such pathways were identified - air, hydrogeology, surface water and transportation.

- land use and population factors - These factors address human health from the receptor perspective, e.g. population densities. They also address potential land resource impacts, e.g. agriculture, and the maintenance of a range of choices regarding land resource use and ownership siting considerations.

Factor sheets for each of the candidate area factors are provided in Appendix A of this report. The factor groupings, facility components affected, factor definitions, rationale/significance, sources of information, interpretation/methodology, criteria/indicators, and comments/assumptions/limitations are all addressed in the factor sheets.

Table 2.1 lists the factors employed in candidate area identification and provides the rationale/significance for each factor.

2.5 DATA COLLECTION AND ANALYSIS

Once the site selection team formulated a preliminary list of factors for candidate area identification, an extensive process of data collection, analysis and mapping was undertaken under the direction of Dillon Site

TABLE 2.1

Factors Employed in the Identification of Candidate Areas

Factor Grouping/ Factor	Rationale/Significance
o Environment	
° Hydrogeology	° The nature of the hydrogeologic setting is important when siting the three facility components. Increasing containment is afforded with greater thicknesses of uniform fine-textured soils. Ground water and contaminant movement rates through generally uniform silt-clay soils are predictably slow and the soil can be expected to have a high attenuation capability.
° Atmospheric Dispersion	° Emissions to the atmosphere represent the major potential environmental impact that might arise from the operation of an incinerator. The selection of sites which minimize the potential for poor dispersion is one of the obvious avoidance measures that can be used to reduce the chance of any significant impacts. The primary reason for avoiding poor and unpredictable dispersion conditions is to ensure that downwind concentrations of any emissions which might occur will not reach ground level concentrations in excess of recommended levels. By avoiding areas where air dispersion constraints such as lake breezes, urban heat islands, and topographic features occur, both the frequency and intensity of periods in which abnormally high pollutant levels might occur are reduced. Also the predictability and consistency of prevailing dispersion conditions are much greater in the absence of such constraints. For these reasons, the avoidance of sites which involve constraints leading to poor or complex dispersion conditions is an important criterion in the siting of an incinerator.

TABLE 2.1

Factors Employed in the Identification of Candidate Areas

Factor Grouping/ Factor	Rationale/Significance
o Environment	
° Surface Water	° It is possible that the treated effluent from the physical/chemical treatment plant will be discharged to the lower Great Lakes. Associated risks and impacts can be minimized by: 1) minimizing interference with major water uses including municipal and industrial intakes and outfalls, supervised beaches, spawning areas and anchorage areas; 2) maximizing proximity to receiving bodies with consistent dispersion and transport characteristics and good dilution capability.
° Transportation	° Transportation cost and risk can be reduced by minimizing the overall travel distance that special wastes must be hauled. Accident rates tend to be somewhat higher on other provincial and regional roads than freeways. Homes and other sensitive uses also tend to be located closer to the road with other provincial and regional roads than with freeways. Therefore, transportation risk can be further minimized by maximizing proximity to the freeway system.
o Land Use	
° Agriculture	° The possible removal of Class 1 and 2 land from agricultural production is a concern of the site selection process. In addition, the potential impact on agricultural operations is a concern. These concerns are addressed through the consideration of soil capability requirements for common field crops, specialty agricultural crops as well as various measures of the use, intensity and long term economic performance of agriculture.

TABLE 2.1

Factors Employed in the Identification of Candidate Areas

Factor Grouping/ Factor	Rationale/Significance
o Land Use	
° Publicly-Held and Industrially Designated Lands	° Publicly-held lands are considered significant to the site selection process because they offer the opportunity for a facility siting which can have minimal impacts on private landowners and residents. Industrially designated lands were identified as a high priority because the conflict between a hazardous waste treatment facility and adjacent land uses would tend to be minimized in such locations.
° Urban Built-up Areas	° Urban built-up areas where the location of facilities would necessitate the displacement of existing land uses and residents would not be suitable locations for a facility component from two standpoints. First, the population levels in close proximity to such sites may result in a threat to human health and safety. This concern, together with inevitable land use conflicts and the likelihood of the displacement of existing uses, points to the need to eliminate such areas from further consideration.
° Rural Population Densities	° Population levels in rural areas may vary considerably based on such differences as the extent of non-farm related residential development, the number and size of hamlets and villages, and the nature of the local agricultural community. This variation in population levels was mapped so that a range of siting opportunities could be maintained and to ensure that areas of lower rural population density are retained.

Selection. The purpose of the data collection and analysis work was to provide the information base necessary for candidate area identification. The data collection and analysis process included:

- detailed reviews of available information and statistics, e.g. Canada Land Inventory maps, Census data;
- air photo interpretation;
- reviews of documents on file with various Ministries and agencies.

The major product of the data collection and analysis process was a series of data maps at a regional scale.

3.0 FACTORS - CHARACTERISTICS AND DISTINCTIONS

3.1 INTRODUCTION

This chapter reviews the major characteristics of each factor. It also identifies the major distinctions within each factor. These characteristics and distinctions provide the basis for both:

- o determining which areas should be included or excluded;
- o determining the implications of the siting opportunities retained or lost.

3.2 HYDROGEOLOGY

Gartner Lee Associates Limited (GLAL) prepared two reports on geologic and hydrogeologic considerations in the siting of industrial waste management facilities for OWMC. The first of these reports, Hydrogeologic Considerations for Facilities Siting (1983a), presents some basic concepts regarding contaminant movement in the hydrogeologic environment. It outlines some assumptions concerning facility characteristics and wastes. It also provides some general conclusions and recommendations regarding siting requirements for the three facility components.

As a basis for establishing priorities among areas for the siting of facilities, the report recommends that first consideration be given to

areas, "of the Golden Horseshoe that are expected to be underlain by the thickest deposits of uniform fine-textured soils" (GLAL, 1983a, p.13).

The report further notes that, "those areas of the Golden Horseshoe suspected to be underlain by coarser-textured soils or where the geology (stratigraphic relationships) is complex should only be considered for potential siting of facilities if sites cannot be found in those areas underlain by deep, fine-textured soils" (GLAL, 1983a, pp.13-14).

For the siting of an engineered landfill, the report recommends that, ..."areas with soil thicknesses of less than about 10 m of fine-textured soils should not be considered for an engineered landfill" (GLAL, 1983a, p.14). It further suggests that, "areas underlain by over 20 m± of fine-textured soils should be considered first over areas with lesser thicknesses of such soils" (GLAL, 1983a, p.14).

For the siting of the treatment facility, incinerator and transfer stations "areas underlain by less than about 10 m of fine-textured soils can be considered, but more detailed site specific investigations would be required to even evaluate the preliminary adequacy of the site" (GLAL, 1983a, pp.14-15).

The second report prepared by Gartner Lee Associates Limited entitled Interim Report on Priority of Study of Zone 1 and 2 Lands - Golden Horseshoe - Geological Considerations (1983b) establishes priority areas in the Zone 1 and Zone 2 lands for the siting of facility components. Information for this evaluation of the geologic and hydrogeologic characteristics of these lands was based on inventory mapping prepared by Gartner Lee Associates Limited, a review of literature, a review of previous water well plot data as well as supplementing well plots, and a re-evaluation of this information using the Quaternary geologic history of the areas. Discussions were also held with recognized geologic experts familiar with the study area.

This re-evaluation resulted in the delineation of eight geologic areas in the Golden Horseshoe. These areas were ranked for their suitability for an engineered landfill or for a physical/chemical treatment plant or an incinerator. The areas were assigned one of three priorities (A, B or C) for an engineered landfill and one of two priorities (X or Y) for a physical/chemical treatment plant or an incinerator.

"The lands identified as Priority A have the best predicted geologic conditions for the siting of a landfill or integrated facility. Priority B lands are underlain by more variable geological strata or by bedrock at shallower depths. Priority C lands are underlain by complex and variable stratigraphy, including sand bodies and silt to sandy silt tills and the likelihood of finding sites is low" (GLAL, 1983b, p.21).

"The lands identified as Priority X have the least geologic restrictions for siting a physical/chemical treatment plant or incinerator. Priority Y lands often have complex subsurface stratigraphy dominated by buried sand bodies and silt to sandy silt tills and there is less likelihood of finding a physical/chemical plant or incinerator site" (GLAL, 1983b, p.21).

The Gartner Lee report recommends that OWMC concentrate its search for a landfill or an integrated facility site within the Priority A and Priority B lands and for a physical/chemical treatment plant and incinerator within the Priority X lands. The report suggests that Priority C and Y lands can be evaluated later in the event that acceptable sites cannot be found in the Priority A, B and X lands.

A more detailed geologic investigation was undertaken of Priority Areas A, B and X to assist in the identification of candidate areas.[1] The Priority Areas were subdivided into a series of smaller areas based on their

[1] This investigation, including the analysis of the Priority C and Y lands is detailed in a subsequent report prepared by Gartner Lee Associates Ltd. entitled Geologic and Hydrogeologic Inventory of the Golden Horseshoe Candidate Region (February, 1984).

geologic properties. A map was then produced with a seven-level hydrogeologic classification system (see Map Portfolio - Map 3). The classification system reflects differences in the depth and uniformity of soils. A description of each hydrogeologic class is provided in Table B.1 in Appendix B to this report - Characteristics of Hydrogeologic Categories.

For a more detailed explanation of geologic and hydrogeologic considerations in the selection of candidate areas, reference should be made to the Gartner Lee reports cited above.

3.3 ATMOSPHERIC DISPERSION

The analysis of atmospheric dispersion considerations was prepared by the Ontario Research Foundation, subconsultants to Gartner Lee Associates Limited. The primary objective of their report, entitled Atmospheric Dispersion Influences - Golden Horseshoe (ORF, 1983), was to provide information on atmospheric dispersion phenomena in the Golden Horseshoe area. Specific components of the study included a description of the potential effects of lake breezes, urban heat islands and topography on air pollution dispersion, a rationale for using air dispersion constraints in the identification of incinerator sites, and a constraint map showing the occurrence of these constraints in the Golden Horseshoe.

This report identifies three major climatological influences on air dispersion - lake breezes, urban heat islands, and topography.

a) Lake Breezes

"Lake breeze phenomena can be experienced along all shores of Lake Ontario and Lake Erie during the day, with the effect being more pronounced during the summer and somewhat less intense during the spring and fall months. Breezes from the lake to the land promote the

formation of an internal boundary layer which increases in depth with distance from the shoreline. The pollutants in a plume which encounters this boundary layer are brought down to ground level rapidly, resulting in potentially high ground level concentrations (referred to as fumigation). This situation can be avoided by not locating facilities within approximately 5 km of the lakeshore. Lake breezes also tend to recirculate pollutants which are not brought to ground level by fumigation. However, the direct fumigation of emissions is the most important mechanism whereby lake breezes can result in high ground level pollutant concentrations. Regional onshore winds, in the absence of a lake breeze, can create an internal boundary layer, also conducive to fumigation from shoreline stacks" (ORF, 1983, pp.1-2).

b) Urban Heat Islands

"An urban heat island occurs when an urban area releases enough heat to create a substantial temperature differential with the surrounding rural regions and then creates a convective circulation. Under relatively calm conditions, pollutants are recirculated within the turbulent atmosphere of the urban centre. This condition is especially significant at night when the urban air, and pollutants, are trapped on all sides by cool stable "rural" air. On windy days the urban plume is transported downwind where relatively high ground level concentrations can result if the plume loops to the ground in a buoyant atmosphere. At night the urban plume can travel as a relatively undisturbed plume for 10's of km in the stable air before encountering unstable air and dispersing or fumigating. This usually occurs on the following day. The urban heat island is strongest during summer months, although present all year, but is especially significant to air quality during nocturnal hours under conditions of relatively light winds" (ORF, 1983, p.2).

c) **Topography**

"Topographic features generally complicate the dispersion of pollutants, as a function of their size and shape, and proximity to the source. Prominent features block pollutants advected towards their face. Deep valleys tend to recirculate pollutants. Fumigation events can occur frequently, at the top of the feature, or along the face" (ORF, 1983, p.4).

"The Niagara Escarpment, as the major topographic feature in Southern Ontario, can complicate the dispersion of pollutants emitted near its base. Other less pronounced topographic features of the Golden Horseshoe, such as prominent ridges, hills and valleys, may have similar influences on dispersion, with the significance and extent of the effect being more or less proportional to their size" (ORF, 1983, pp.14-15).

d) **Combined Effects**

"A number of regions in the Golden Horseshoe experience the effects of various combinations of these influences. An urban centre located on the shoreline (Toronto, for example) can strengthen and create a 24-hour lake breeze circulation cell, recirculating the pollutant emissions from the urban centre. A prominent topographic feature such as the Niagara Escarpment can trap pollutants emitted near the base of the feature, even under relatively good dispersion conditions. Pollutants from an urban centre near such a feature can be restricted on windy days as well. The combined occurrence of a lake breeze and a topographic feature can adjust the circulation cell of the lake breeze, with the potential to create poor dispersion conditions at the base of the feature" (ORF, 1983, p.3).

e) **Constraints Within the Golden Horseshoe**

In intepreting these constraints the report points out that, ..."In addition to incorporating sound engineering principles to ensure minimal emissions of such contaminants, it is also important to avoid areas which are known to be subject to atmospheric conditions which inhibit good dispersion of emissions to the atmosphere. The selection of sites which avoid adverse dispersion conditions is one of the more cost-effective avoidance measures that can be used. In so doing, both the frequency and intensity of periods of potential adverse impacts are minimized" (ORF, 1983, pp.3-4).

A map was prepared showing the areas of the Golden Horseshoe which are affected by these major air dispersion influences (see Map Portfolio - Map 4).

Areas identified as potentially subject to adverse dispersion conditions were as follows:

- o urban areas with a population greater than approximately 40,000;
- o land within 5 km of the shorelines of Lake Ontario and Lake Erie;
- o lands near the base of the Niagara Escarpment (ORF, 1983, p.4).

Reference should made to the report cited above for a more detailed explanation of atmospheric dispersion influences in the Golden Horseshoe.

3.4 SURFACE WATER

The analysis of surface water environment in or adjacent to the Golden Horseshoe was undertaken by Gartner Lee Associates Limited and Gore and Storrie Limited. The report entitled Surface Waters of the Golden Horseshoe as Effluent Receivers (GLAL, 1984) was intended to identify candidate

surface water receivers for treated waste water from OWMC facilities. The study considered both important surface water uses and surface water dispersion characteristics.

"Major water uses are plotted on two basic data maps -- one dealing with intakes, outfalls, anchorage areas and beaches, and the other dealing with important fisheries areas. The locations of rivers providing 1000:1 dilution under low flow conditions and of the interpreted nearshore region or coastal boundary layer are illustrated on a separate basic data map.

Water use and dispersion information were reviewed and a derived map was produced which categorized the surface waters of Lake Ontario and Erie adjacent to the Golden Horseshoe as candidate receivers of treated effluent from an OWMC physical/chemical plant. Categories were assigned based on dispersion capabilities and possibility of interference with important documented uses" (GLAL, 1984, pp.12-13).

The analysis resulted in the identification of four categories of candidate surface waters. These four categories include:

- "Category 1 zones are candidate surface water receivers with more consistent dispersion and transport characteristics and low possibility of use interference. They are located along the Lower Niagara River and Chippawa - Queenston Power Canal and the offshore zones of western Lake Ontario and eastern Lake Erie (Pages 23, 24)" (GLAL, 1984, pp.iii-iv);

- "Category 2 zones are candidate receivers with variable dispersion and transport properties and a low possibility of use interference. They are spread extensively along the coastal zone of western Lake Ontario (Page 24)" (GLAL, 1984, p.iv);

- "Category 3 zones are candidate receivers with variable dispersion and transport characteristics and a high possibility of use interference.

They are associated with municipal water intakes, important commercial fishery areas, open lake spawning shoals and the mouths of streams regarded as important for sport fish spawning. These include the Grand River, the Welland Canal and the Upper Niagara River as well as scattered areas along western Lake Ontario and the entire coastal zone of eastern Lake Erie (Pages 24, 25)" (GLAL, 1984, p.iv);

- "outfalls and diffusers are susceptible to damage in anchorage areas. These Category 4 zones are located in Hamilton Bay, Toronto Harbour and the upbound and downbound entrances to the Welland Canal" (GLAL, 1984, p.iv).

With regard to the potential role of the surface water analysis in candidate area identification, the report concludes:

"...extensive areas of Lakes Ontario and Erie appear to afford potential for discharge of treated effluent from the physical/chemical plant with low chance of interference with existing uses. Also, the Lower Niagara River and the Chippawa - Queenston Power Canal afford similar potential. Hence, surface waters as effluent receivers do not exert a strong influence on the site selection process assuming the effluent may be conveyed to the candidate receiver" (GLAL, 1984, p.v).

The report recommends that further surface water receiver characterization not be undertaken ..."until the site selection process allows the identification of potential outfall locations" (GLAL, 1984, p.v).

Reference should be made to the report noted above for further details regarding the analysis of surface waters.

3.5 TRANSPORTATION

Transportation considerations in the identification of candidate areas were examined by the firm of M.M. Dillon Limited and presented in their report entitled OWMC Technical Report - Transportation. Phase III Interim Report (M.M. Dillon, 1984). The purpose of this analysis was to determine the available facilities, the hierarchy of elements in the transportation system, and the operational characteristics of each element. These operational characteristics were then translated into indicators of the transportation services for each area within the candidate region. The resultant documentation provided the means for comparing the various areas in terms of transportation accessibility.

Preliminary indicators of the transportation accessibility of each area were travel time from the theoretical centroid of waste and travel time from freeways.

a) Travel Time From Theoretical Centroid

The location of the treatment facility is important in order to minimize both distance and the cost of transporting wastes. According to the Dillon report, both travel time and risk would be minimized if the facility were located at the theoretical centre of all waste generation.

The method used to establish a theoretical centroid of waste generation was the "traditional measure of physical centre of gravity based on weight and distance" (M.M. Dillon, 1984, p.14). The weight (quantity) of waste was established in the Waste Quantities Study (Proctor & Redfern, 1982). Calculations were carried out using total quantities of waste of individual municipal areas. Using airline distances for the initial test, distances were calculated from the centre of each municipality to two datum lines in north-south and east-west

directions, respectively. Then, using a mathematical equation, the theoretical centroid of waste was derived for Southern Ontario. The centroid was calculated for Southern Ontario only for the following reasons:

i) Southern Ontario (south of 46° north latitude) is the source of some 90 to 95% of the waste generated in Ontario;

ii) Northern Ontario waste may be handled differently because of the distances involved; and

iii) the candidate region identified in Phase 2 is in Southern Ontario.

Accordingly, the theoretical centroid of waste was located in the north Burlington area. This location is slightly south and east of the one shown in the Phase 2 report.

Travel time from the centroid was used because, ..."it takes into account distance and the speeds which might be attained on the various road types. This is reflective of their differing operating characteristics" (M.M. Dillon, 1984, pp.6-7).

The following speeds were assumed to determine travel time: freeways at 90 km/h, highways at 60 km/h, and regional roads at 50 km/h. Lower classifications of roads were not used because they were generally considered inappropriate. Waste treatment is required for materials arriving from a large geographic area. Travel movements should therefore occur on upper tier roads except for direct access to treatment sites where other options do not exist.

Generally, the risks associated with travel vary with the types of transportation facilities. The travel risk measure is usually related to the distance travelled on each type of facility. But risk is also associated with the time of exposure. These dimensions of the travel

risk measure are calculated by using road distance, speeds on various classes of roads, as discussed earlier, and generalized accident rates for various road classes.

Travel time contours in minutes from the centroid were plotted (see Map Portfolio - Map 6).

b) Travel Time From Freeways

The most prominent facility in the roadway system is the freeway because of its high level design features and operating characteristics. Desirable properties of freeways include the following:

"i) they provide the highest level of service:

- the posted speeds are generally 100 km/h, which is 20 km/h higher than the next class of road;
- the operating speeds are on average higher than any other classes of roads;
- there are no traffic control signals and minimum numbers of conflict points;
- access to freeways is by grade separated interchange.

ii) they exhibit the lowest accident rates of all classes of roads:

- on-off movements are accommodated by speed change lanes;
- directional travel is separated by a median treatment;
- they are normally designed for speeds much higher than the posted speed.

iv) risk is minimized:

- they have wide rights-of-way;

- buildings are generally well setback from the road;
- no pedestrians or slow moving vehicles are allowed"
(M.M. Dillon, 1984, pp.7-8).

As the transportation report points out, "The freeway network in Southern Ontario is extensive. Most of the major centres where waste would be generated are on or close to a freeway. Therefore, the proximity to the freeway at the receiver end is important. Considering these factors and the properties of the freeway, the closer the proximity to a freeway the more suitable an area from an access perspective" (M.M. Dillon, 1984, p.8).

Travel time was selected as the preferred measure as it reflects both distance and operating speed for type of road used in travel from the freeway to the destination area.

The freeway system used in this calculation was the existing 400-series highways as well as the proposed Highway 403 completed between Brantford and Hamilton and Highway 406 from the QEW to Port Robinson Road in Thorold, scheduled for completion before 1990.

Travel time contours in minutes from freeways were plotted (see Map Portfolio - Map 6). Further details on the transportation analysis are provided in the above noted report.

3.6 AGRICULTURE

Agriculture is a factor used in the selection of candidate areas. The siting of waste facility components requires lands which may presently be used for agricultural purposes. Accordingly, a technical report was prepared by the firm of Robinson, Merritt and deVries (RMV) entitled Agricultural Considerations in the Selection of Candidate Areas (RMV, 1983).

In their report, the agricultural parameters identified included:

"i) soil capability for common field crops;

ii) specialty agricultural crops;

iii) use-intensity and economic performance of agriculture as illustrated by:

a) percent of township or municipality area occupied by census farms;
b) average values of gross farm sales;
c) average capital value of farm operations" (RMV, 1983, p.iv).

a) **Soil Capability for Common Field Crops**

As the agricultural report points out, "The soil capability for agriculture was assessed using a classification system developed by the Canada Land Inventory of the federal government. This system ranks the physical capabilities of mineral soils for sustained production of field crops. Soil and climatic characteristics are evaluated and soils placed in one of seven classes which indicate relative use potentials; subclasses identify specific characteristics that limit use potentials. In this system, Class 1 soil has the highest capability and Class 7 the lowest. Organic soils appear as an unranked eighth category" (RMV, 1983, pp.2,4).

Soil capability data were obtained from unpublished Canada Land Inventory (CLI) maps prepared at a scale of 1:50,000. "Where CLI map units contained more than one capability class, only the first, i.e. the dominant, capability class was considered in ranking the map unit" (RMV, 1983, p.4). In reviewing the data, the report notes that, "Over eighty percent of the study area consists of Class 1 and 2 soils.

Pockets of Class 3 and 4 and lower capability land occur in the eastern end of the Niagara Peninsula and in the southwestern portion of York Region" (RMV, 1983, p.v).

b) Specialty Agricultural Crops

The location of specialty crop areas was taken from agricultural land use system maps prepared by both OMAF and Agriculture Canada. "While the classification system does not identify crops in individual fields, it does identify cropping systems for larger units such as farms or groups of farms. These systems may be monocultures such as continuous corn or rotations that include grain and forage crops. The mapping tends to be more field-specific for specialty crops such as orchards, vineyards, market gardens and nurseries. Wooded areas, idle land and non-agricultural land uses are also identified in this mapping" (RMV, 1983, p.6).

Specialty crops are shown on Map 8 in the Map Portfolio. "Specialty crop areas are highlighted because they represent highly intensive agricultural operations and as such are of prime importance to the agricultural sector. These crops can be grown under a relatively narrow range of soil and climatic conditions. Such lands are in short supply in the province of Ontario and are considered by the Food Land Guidelines of the Ministry of Agriculture and Food as highest priority for protection as an agricultural land base for the future" (RMV, 1983, p.7).

Based on a review of the data, the report indicates that speciality crop areas, "are mainly concentrated in the Niagara Region, in particular, in St. Catharines and Niagara-on-the-Lake. A second concentration is mapped in the Town of Nanticoke. Throughout most of the study area smaller, scattered pockets of specialty agriculture are also noted" (RMV, 1983, p.7).

c) **Use Intensity and Economic Performance of Agriculture**

"Data from the 1981 agricultural census were obtained for the following indicators of use-intensity and economic performance of agriculture:

1. Percent of township or municipality area occupied by census farms;
2. Average value of gross sales per improved acre of farmland;
3. Average capital value per acre of all census farms.

The first of the above indicators expresses the dominance or importance of agriculture in a township or municipality. The second indicates the value of agricultural sales on a per improved acre basis, and the third indicates the relative investment or capitalization of census farms on a per acre basis" (RMV, pp.7,10).

The range of values obtained for the study region for each of the three indicators were grouped into classes and plotted on Map 8 in the Map Portfolio.

With respect to the percent of township or municipality area occupied by census farms, "Map 8 of the Map Portfolio shows the predominance of agriculture in most of Haldimand-Norfolk and the western portion of Niagara. Also demonstrated is the reduced presence of agriculture in Mississauga, St. Catharines, Niagara Falls, Welland, Thorold, Fort Erie and the Six Nations Indian Reserve" (RMV, 1983, p.11).

The mapped data on average value of gross sales per improved acre of farmland..."indicate that areas dominated by specialty agriculture generally demonstrate higher average sale values within the study area. This is especially evident in eastern Niagara Region in the vicinity of St. Catharines and Niagara-on-the-Lake. Areas with low values for sales of farm products are the Town of Haldimand, Port Colborne, Fort Erie, the City of Niagara Falls and the Six Nations Indian Reserve" (RMV, 1983, p.12).

The maps on average capital value per acre of all census farms, "indicate that areas dominated by specialty crops as described above also demonstrate higher capitalization values. Furthermore, major urban centres such as Mississauga, Brampton and St. Catharines show a high capitalization value due mainly to high land values. These high land values are primarily due to urban influences" (RMV, 1983, p.12).

d) **Potential Role in Candidate Area Identification**

In considering the potential role of the mapping described above in candidate area identification, the report notes that ..."The highest priority areas for agriculture which should, if possible, be avoided in the siting of OWMC treatment facilities are large areas of specialty crops, Class 1, 2 and 3 soils and areas of all classes of soils which are intensively used for agricultural products" (RMV, 1983, p.v). The report further notes that ..."The Food Land Guidelines of the Ontario Ministry of Agriculture and Food (OMAF) indicate that Class 1 to 4 land and areas which support the production of specialty crops are to be given top priority for food land preservation" (RMV, 1983, p.4).

Reference to the above noted report should be made for further details regarding the agricultural analysis.

3.7 PUBLICLY-HELD AND INDUSTRIALLY DESIGNATED LANDS

Research was conducted on industrial and publicly-held lands in the candidate region by Marshall Macklin Monaghan Limited (MMM). The results were presented in their report entitled Phase 3 Interim Technical Report-Land Use Planning Factors Used in the Selection of Candidate Areas (MMM, 1984).

"Industrially designated lands including developed and vacant lands, were mapped from approved local Official Plans and Amendments. No distinction has been made at this time between lands which may be vacant or developed for industrial purposes, and lands which are also zoned industrial.

These designations may include a wide variety of types including Prestige Industrial, General Industrial, Extractive Industrial, etc. All types of land use designations which are industrial in nature have been included" (MMM, 1984, p.12).

"Publicly-held lands in excess of 20 hectares have been identified and mapped based upon information received from various provincial and federal agencies" (MMM, 1984, p.14).

Map 10 of the Map Portfolio records the extent of Industrially Designated Lands and Publicly Held Lands.

In considering the potential role of the industrial data on candidate area identification, the report notes that, "Industrially designated lands were identified as an area of high priority of land use in the Phase 2 Report on the basis that conflicts between a hazardous waste treatment facility and adjacent land uses would be minimized in such a location. Results of public consultations during Phase 3 have indicated that this high priority may not be always consistent with the priority attached to the protection of the environment. Despite this, it continues to be important that these lands be identified so that a range of siting alternatives may be available in future stages of the site selection process" (MMM, 1984, p.12).

The report further notes that, ..."While every effort has been made to ensure that up-to-date Official Plans and Amendments have been reviewed, certain Amendments either currently being processed by municipalities, or not on file with OWMC or the Ministry of Municipal Affairs and Housing may

have been omitted. Interviews with municipal officials to ensure that all documents used were up-to-date were not conducted during this phase of the work" (MMM, 1984, p.13).

In considering the potential role of the publicly-held data in candidate area identification, the report refers to the opportunities which such lands offer for minimizing impact on private landowners and residents. The report, however, notes that the information supplied was not complete because it did not include the land holdings of municipalities, and because only partial listings of provincial land holdings were available. As a result, the report concludes that ..."only limited reliance should be placed upon the data" (MMM, 1984, p.15).

Reference should be made to the above noted report for further details regarding the analysis of publicly-owned and industrially designated lands.

3.8 URBAN BUILT-UP AREAS

The analysis of urban built-up areas was undertaken by Marshall Macklin Monaghan Limited and is detailed in their report Phase 3 Interim Technical Report - Land Use Planning Factors Used in the Selection of Candidate Areas (MMM, 1984).

The extent of the built-up areas inside and adjacent to the candidate region was delineated by Marshall Macklin Monaghan Limited using 1:30,000 aerial photographs available from the Ontario Ministry of Natural Resources through the Ontario Base Mapping Program.

Built-up areas were considered inappropriate locations for facility components in that their development would necessitate the displacement of existing structures and land uses. However, in order to maintain as great a range of potentially suitable sites as possible, care was taken to include

in the built-up areas only those vacant, open space, and rural lands which were completely surrounded by urban uses and which were not located on the edge of the urban area. All other non-urban uses on the edge of the urban areas were excluded from the built-up areas as much as possible. Industrially designated vacant lands within built-up areas were also retained for further consideration (MMM, 1984, p.6).

In order to differentiate between urban and rural areas, Marshall Macklin Monaghan used the following Canada Census definition of an urban area:

> "Urban Area refers to an area having a population concentration of 1,000 or more and a population density of 400 or more persons per square kilometre (Statistics Canada, 1981 Census of Canada, Catalogue 93-906)" (MMM, 1984, p.6).

Thus communities estimated to be less than 1,000 persons, including hamlets, villages, and estate residential developments, were not distinguished from the surrounding rural area. Also, rural industrial uses, airports and other uses were not identified separately. Estimates of community size were sometimes required because precise data were not always available on community size and community population density (MMM, 1984, p.7).

Communities were grouped into two categories - over 20,000 population and under 20,000 (but over 1,000) population.

It was decided that a distinction based on community size was necessary for the following reasons:

- "the scale of mapping employed (1:126,000) does not permit an accurate representation of the limits of development of small communities. To exclude lands associated with these communities would not permit a

detailed examination of non-urban lands immediately surrounding these communities and would not be consistent with the site selection process.

- the choice of a population size as a somewhat arbitrary distinction among urban communities, which are excluded or included for further consideration was not viewed as inconsistent with the overall site selection process. Because the process is based upon a progressive refining of data, beginning with the use of secondary source data and concluding with localized on-the-land information, this distinction is only part of a process which permits a detailed examination of retained urban communities at a later date. Mapping at a scale with greater detail and more refined data will permit the exclusion of these urban areas at a later date" (MMM, 1984, pp.6-7).

The choice of communities of 20,000 persons as the smallest community that might be examined for exclusion was based on the recognition that, "there were very few communities with populations near 20,000" (MMM, 1984, p.7). In this analysis, therefore, consideration was only given to the urban concentrations, rather than to the boundaries of the larger municipality in which the community was located. "Also continuous urban areas extending over municipal boundaries are considered to be one community for purpose of the analysis" (MMM, 1984, p.7).

The information obtained was mapped at a 1:126,000 scale (see Map Portfolio - Map 9). Further details regarding the analysis of urban built-up area is provided in the report noted above.

3.9 RURAL POPULATION DENSITIES

The analysis of rural population densities was also undertaken by Marshall Macklin Monaghan Limited and is detailed in their report - Phase 3 Interim Technical Report - Land Use Planning Factors Used in the Selection of Candidate Areas (MMM, 1984).

Rural population densities were mapped in order to ensure that "a range of siting options can be maintained, and to ensure that areas of lower rural population density which may otherwise be suitable are not being excluded" (MMM, 1984, p.9). Rural areas were defined as all non-urban areas based on the Statistics Canada definition, i.e. not having "...a population concentration of 1,000 or more and a population density of 400 or more persons per square km" (Statistics Canada).

Rural population densities data were obtained from the 1981 Census. The census data were augmented where necessary from information from municipal planning departments. The rural area was obtained by subtracting the urban areas, as determined through air photo interpretation. Rural population densities were determined on an area-wide municipality basis (see Map Portfolio - Map 9).

The results of the density calculations were grouped into three categories - fewer than 20 persons per square km, 20-40 persons per square km and more than 40 persons per square km. These categories were ..."based upon the observed groupings of the actual data which emerged" (MMM, 1984, p.10).

The report notes that the calculation should only be, "considered indicative of regional population trends" (MMM, 1984, p.10). The report points out that the figures were only calculated on a municipality-wide basis and therefore, ..."include areas in the municipality which are outside the limits of the selected geographic region" (MMM, 1984, p.10). It also

indicates that estimates of rural/urban population split for municipalities outside the census Metropolitan Areas had to be derived based on information provided from municipal planning departments (MMM, 1984, pp.10-11). Finally, the extent of rural areas was based on estimates determined by planimetering aerial photography (MMM, 1984, p.11).

Further details regarding the analysis of rural population densities are provided in the report cited above.

4.0 THE SELECTION OF CANDIDATE AREAS

4.1 INTRODUCTION

The candidate areas were identified using a series of overlay maps representing the previously described environmental and land use factors. After determining the role in the candidate area selection process of each factor, various combinations of maps were used to exclude areas for one or more facility components. The maps were also used to address maintenance of choice implications.

In the subsections which follow, the candidate area selection process is first described. A step-by-step rationale for the exclusion (or retention) of various areas within the candidate region is then detailed. Finally, the maintenance of choice implications of the areas retained and excluded is reviewed.

4.2 CANDIDATE AREA SELECTION PROCESS

The process by which the candidate areas were selected is summarized in Table 4.1.

The process began with a review of each factor using the considerations described in Chapter 3 and taking into account the suggestions and comments raised through the OWMC public consultation program (See Appendix D). In

TABLE 4.1

Candidate Area Selection Process

Stage 1 Determine exclusionary/non-exclusionary factors and basis for role

Stage 2 Exclude areas for all components

- 2.1 Second level of protection requirements - hydrogeology
- 2.2 Air dispersion constraints providing:
  - i) subject to more than one constraint, or
  - ii) subject to one constraint and minimal loss - diversity of choice
- 2.3 Transportation constraint providing minimal loss in diversity of choice
- 2.4 Specialty crops providing heavy concentration of such uses and outer boundary can be defined at Phase 3A mapping scale
- 2.5 Built-up areas

Stage 3 Exclude areas for individual components

- 3.1 Landfill - depth requirements
- 3.2 Landfill - soil variability providing minimal loss in diversity of choice
- 3.3 Incinerator - air dispersion constraints

Stage 4 Complete maintenance of choice analysis

- 4.1 Siting opportunities retained - landfills and all components
- 4.2 Siting opportunities retained - incinerators and physical/chemical treatment plants
- 4.3 Siting opportunities not retained - landfills and all components
- 4.4 Siting opportunities not retained - incinerators and physical/chemical treatment plants

some instances, identified constraints provided an adequate basis for the exclusion of areas entirely or for particular facility components. In other cases the constraints potentially provided the basis for excluding areas, but because of data accuracy, mapping precision, or arbitrary boundary considerations, areas could only be excluded if there were combinations of constraints or if an adequate range of siting opportunities was retained. Finally, some factors were identified as only appropriate for addressing maintenance of choice matters.

Having established the role of each factor, the next step was to identify areas which could be excluded from consideration for all components. In some instances, individual constraints provided a sufficient basis for the exclusion of areas. In other cases, it was necessary to consider combinations of constraints or constraint(s) in conjunction with maintenance of choice considerations.

The remaining areas were then evaluated for their suitability for various facility components. These distinctions were largely based on hydrogeologic and air dispersion environmental requirements. Maintenance of choice considerations, however, also played a role in the analysis.

The final stage consisted of reviewing the siting opportunities maintained by the candidate areas and lost by the excluded areas.

4.3 STAGE 1 - DETERMINE ROLE OF FACTORS

The following factor roles were identified:

- o exclusionary;
- o potentially exclusionary;
- o non-exclusionary - maintenance of choice role;
- o non-exclusionary - no maintenance of choice role.

The bases for these roles are identified in Table 4.2. The major reasons for the distinctions identified in Table 4.2 pertain to the three site selection principles, the level of confidence in the accuracy of the data and the degrees of precision and arbitrariness with which the data could spatially delineate suitable from non-suitable areas.

In Chapter 3 of this report the characteristics of and distinctions within each factor are described. In Table 4.3 these characteristics and distinctions determine the appropriate roles of each factor. The roles and rationales highlighted in Table 4.3 are described in greater detail below.

a) **Hydrogeology**

The following consideration influenced the role of the hydrogeologic constraints in candidate area identification:

- hydrogeologic Categories 3 and 4 would not ensure natural containment;

- the hydrogeologic consultant recommended that priority be given to areas with a minimum soil depth of 10 m for the incinerator/physical/chemical treatment component and 20 m for the landfill component; the depth distinction between facility components reflected the potentially greater excavation required for the landfill;

- limiting candidate areas to Category 1 soils would have restricted the search process to the central and eastern portions of the Niagara Peninsula; by retaining the Categories 2A and 2B soils the potential would be maintained for locating a site in the western portion of the Niagara Peninsula - an area somewhat close to the centroid of waste generation (see Map Portfolio - Map 6).

TABLE 4.2

Potential Roles for Factor

Role	Basis for Role
Exclusionary	- fails or likely to fail to provide second level of protection - major direct impacts - limited likelihood of suitability - confidence in data accuracy - well-defined, non-arbitrary, spatial boundaries - minimal loss in maintenance of choice
Potentially Exclusionary - Maintenance of choice role	- potentially fails to provide second level of protection - limited likelihood of suitability - subject to more than one constraint - moderate confidence in data accuracy and/or approximate, arbitrary spatial boundaries - non-exclusionary if necessary to maintain range of siting opportunities
Non-Exclusionary - Maintenance of choice role	- provides second level of protection - variation across candidate region - potentially suitable - limited confidence in data accuracy for purposes other than maintenance of choice review - spatial boundaries very general and/or very arbitrary
Non-Exclusionary - No maintenance of choice role	- limited differences across candidate region - possible to ensure second level of protection without consideration

TABLE 4.3

Factor Role

FACTOR	DISTINCTIONS	ROLE	SUMMARY RATIONALE
Hydrogeology	Category 1 Uniform silt-clay soils		
	1A depth 30 m or more	Non-Exclusionary - all facility components	- provides second level of protection
	1B depth 20 - 30 m	Non-Exclusionary - all facility components - maintenance of choice role	- provides second level of protection; maintains wider range of siting opportunities than 1A soils alone
	1C depth 10 - 20 m	Exclusionary for landfill	- provides second level of protection for incinerator and physical/ chemical treatment plant - with excavation for landfill potentially limited depth beneath base of landfill; consistent with recommendation of hydrogeologic consultant that priority be given to 20 m± fine textured soils
	Category 2 Generally silt-clay soils; may be locally intermixed with sand	Potentially exclusionary - all facility components - maintenance of choice role	- potentially fails to provide second level of protection - consider only where maintains siting opportunities for other factors
	2A depth 20 - 30 m		
	2B depth 10 - 20 m	Exclusionary for landfill and potentially exclusionary for incinerator/ physical/ chemical treatment plant	- excavation for landfill potentially limited depth beneath base of landfill; with depth limitation and potential soil consistency limitation - limited likelihood of suitability

TABLE 4.3 (cont'd)

Factor Role

FACTOR	DISTINCTIONS	ROLE	SUMMARY RATIONALE
Hydrogeology (cont'd)		- maintenance of choice role	- potentially exclusionary for incinerator/physical/chemical treatment plant because of consistency limitations: consider only where maintains siting opportunities for other factors
	Categories 3 & 4		
	3 - Generally a variety of geologic materials of variable thickness	Exclusionary	- fails to provide second level of protection - limited likelihood of suitability - sufficient confidence in data accuracy - well-defined spatial boundaries
	4 - Generally less than 10 m of silt-clay soils	Exclusionary	- as above
	Area 8 - Priority C for landfill and priority Y for physical/chemical plant or incinerator	Potentially exclusionary - maintenance of choice role	- potentially fails to provide second level of protection - limited likelihood of suitability - consider only where maintains siting opportunities for other factors
Atmospheric Distinctions	Single constraint - lake breeze - topographic feature - urban heat island	- exclusionary for incinerator	- provides second level of protection - area affected within candidate region very limited; negligible loss in maintenance of choice

TABLE 4.3 (cont'd)

Factor Role

FACTOR	DISTINCTIONS	ROLE	SUMMARY RATIONALE
Atmospheric Distinctions (cont'd)		- potentially exclusionary for all components - maintenance of choice role	- exclusionary only if negligible loss in maintenance of choice for other factors and/or seriously constrained by other factors, e.g. built-up areas, specialty crops
	Combined effects - more than one constraint	- exclusionary for incinerator	- as above
		- potentially exclusionary for all components - maintenance of choice role	- as above
Surface Waters	Category 1 - high flow or consistency dispersion, low possibility of use interference Category 2 - variable dispersion; low possibility of use interference Category 3 - variable dispersion; high possibility of use interference Category 4 - anchorage areas	- non-exclusionary for all categories for all facility components - no maintenance of choice role	- distribution of Category 1 areas such that pipeline can be extended to a Category 1 area from anywhere within candidate region; also possible to avoid need for pipeline, e.g. total solidification, evaporation, trucking effluent - pipeline distance difference across candidate areas too limited to warrant the exclusion of areas; differences largely cost, rather than risk or impact

TABLE 4.3 (cont'd)

Factor Role

FACTOR	DISTINCTIONS	ROLE	SUMMARY RATIONALE
Transportation	Travel time from theoretical centroid	Potentially exclusionary - maintenance of choice role	- greater travel time - generally greater transportation risk, impact and cost - choice of spatial thresholds inevitably arbitrary - exclusionary only if negligible reduction in siting opportunities for other factors
	Travel time from 400-series highways	Potentially exclusionary	- as above
Agriculture	Soil capability for common field crops (Classes 1 to 7)	Non-exclusionary - maintenance of choice role	- range of siting opportunities - hydrogeology, transportation, air, rural population densities and industrial/public lands too limited if Classes 1, 2 or Classes 1, 2 and 3 excluded
	Specialty agricultural crops	Potentially exclusionary	- specialty crops of prime importance to the agricultural sector - exclusionary provided heavy concentration of such uses and outer boundary can be defined at Phase 3A mapping scale; more scattered specialty crop areas can be avoided during subsequent site selection stages

TABLE 4.3 (cont'd)

Factor Role

FACTOR	DISTINCTIONS	ROLE	SUMMARY RATIONALE
Agriculture (cont'd)	Use, intensity and economic performance (various census indicators)	Non-exclusionary - maintenance of choice role	- very general spatial boundaries - municipal boundaries; portions of municipalities outside candidate region - data in a form adequate for maintenance of choice analysis but inappropriate as basis for excluding areas
Publicly-Held and Industrially Designated Lands	Publicly-Held/ Industrially Designated Lands	Non-exclusionary - maintenance of choice	- to exclude all but these areas would largely eliminate low density areas and would greatly restrict siting opportunities for other factors - some limitations in data base; adequate for sense of range of siting opportunities - retained or lost
Urban Built-up Areas	- More than 20,000 inside geographic region - More than 20,000 outside geographic region - population 20,000 or less	Exclusionary - for incinerator and landfill Potentially exclusionary - for physical/ chemical treatment plant	- urban built-up areas generally coincide with urban heat islands - limited likelihood of suitability - would necessitate the removal of structures and would generally conflict with surrounding urban uses - option of locating the physical/chemical treatment plant on vacant industrial land within the urban built-up area - retained for further consideration

TABLE 4.3 (cont'd)

Factor Role

FACTOR	DISTINCTIONS	ROLE	SUMMARY RATIONALE
Urban Built-up Areas (cont'd)	- Population - less than 20,000	Non-exclusionary	- communities of less than 20,000 retained for more detailed consideration at a scale with greater detail and more refined data
Rural Population Densities	- More than 20 persons/sq. km 20 - 40 persons/sq. km 0 - 19 persons/sq. km	Non-exclusionary - maintenance of choice role	- very general spatial boundaries - municipal boundaries; portions of municipalities outside candidate region; data approximate; data adequate for interpretations of general trends and patterns but not appropriate basis for excluding areas

- excluding Area A-1 (identified as Priority C for landfill and Y for incinerator/physical treatment plant component) would have resulted in a limited range of siting opportunities to the north of Lake Ontario; it would also have meant the exclusion of a large proportion of the industrially designated and publicly held lands in the candidate region (see Map Portfolio - Map 10).

On the basis of the above, the following was concluded:

- lands within hydrogeologic Categories 3 and 4 should be excluded for all facility components;

- hydrogeologic Categories 1C and 2B should be excluded for the landfill component;

- the search process should not be limited to Category 1 soils; however, Classes 2A and 2B soil area should only be retained if they possessed offsetting advantages;

- Area A-1 should be subject to more detailed hydrogeologic investigations.[1]

b) Atmospheric Dispersion

The following considerations influenced the role of atmospheric dispersion constraints in candidate area identification:

- only a small portion of the candidate region (after the hydrogeologic exclusion) was affected by the three atmospheric constraints; the Great Lakes shoreline and the built-up areas of Hamilton and Toronto had been excluded during previous site selection stages;

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[1] This investigation is detailed in a subsequent report prepared by Gartner Lee Associates Ltd. entitled Geologic and Hydrogeologic Inventory of the Golden Horseshoe Candidate Region, February, 1984.

- the atmospheric constraints primarily applied to the incinerator. Ground level emissions could, however, be influenced by air dispersion constraints. Thus, the air dispersion constraints could assume a minor supplementary role in the siting of other facilities;

- the ORF report concluded that, "Any area having the simultaneous occurrence of all these constraints is unlikely to be a satisfactory incinerator site in terms of dispersion conditions" (ORF, 1983, p.23);

- the report further notes that, "...areas not under the influence of air dispersion constraints can be expected to provide better, and more predictable, dispersion of emissions than areas influenced by these factors" (ORF, 1983, p.23). Avoiding constrained areas would therefore enhance the likelihood of suitability;

- design/operations measures could largely overcome air dispersion constraints. However, relying on such measures would be inconsistent with the second level of protection principle. The inclusion of such measures would also narrow the available range of design/operations choices;

- the air dispersion constraint boundaries were approximate. As the ORF report points out, "...the graphical representations of boundaries of each influence provided on the map should not be regarded as precise and accurate demarcations of the presence, or absence, of these influences" (ORF, 1983, p.20);

- the three constraints - lake breeze, topographic features and heat island - were considered equally important.

On the basis of the above, it was concluded that all areas subject to one or more atmospheric constraints should be excluded for incinerator

siting purposes. However, because of the approximate nature of the atmospheric constraint boundaries, the maintenance of choice implications of potentially excluded areas were to be reviewed.

It was further concluded that atmospheric constraints were to be treated as potentially exclusionary for all facility components. However, because the atmospheric constraints primarily applied to the incinerator, particular consideration was to be given to other factors and to maintenance of choice implications.

c) **Surface Water**

A number of considerations influenced the role of surface water constraints in candidate area identification, including the following:

- there was no clearly defined threshold of suitability for proximity to Category 1 surface water areas;

- a pipeline could be extended from any portion of the candidate region to a suitable Category 1 area;

- the proximity differences to suitable receiving bodies from hydrogeologically suitable portions of the candidate region were limited;

- proximity to receiving bodies was a poor measure of pipeline impacts; actual impacts could vary substantially depending on the pipeline routes and alignments selected; the potential for transporting effluent by truck also remained;

- a range of technology choices remained, e.g. total solidification vs. partial solidification, which would preclude the need to use surface waters in the Golden Horseshoe as receivers for treated wastewaters.

From the above it was concluded that it would be inappropriate to exclude areas based on proximity to Category 1 surface water areas. It was further concluded that the proximity differences from Category 1 surface water areas were too limited for surface water constraints to assume a maintenance of choice role.

d) Transportation

In considering the two transportation indicators, travel time from theoretical centroid and travel time from 400-series highways, it was recognized that there was no clearly defined threshold of suitability. However, unlike the surface water factor:

- there were clear differences across the candidate region. Parts of the candidate region were very close and other parts of the candidate region were well removed from the theoretical centroid of waste generation. Similarly, parts of the candidate region were in the immediate proximity of and other parts of the candidate region were quite well removed from the 400-series highways;

- the impacts and costs associated with constructing new roads would likely be considerable;

- the opportunities for transporting waste by means other than roads were limited;

- risks and impacts tend to increase with travel time; because of differences in accident rates and the closer proximity of sensitive uses, risks and impacts along non-400-series highways tend to be greater.

On the basis of the above, it was concluded that transportation constraints could be treated as potentially exclusionary. In the absence of clear thresholds of suitability, however, it was also concluded that areas should only be excluded if siting opportunities for other factors were maintained.

e) Agriculture

The agriculture factor encompassed three agricultural parameters - soil capability for common field crops, specialty agricultural crops and various use intensity and economic performance indicators. The role of each of these parameters varied in candidate area identification.

In the case of soil capability for common field crops (Classes 1 to 7), it was concluded that the data should assume a non-exclusionary maintenance of choice role. The major reasons for this conclusion were as follows:

- although the soil capability classes did distinguish lands on the basis of levels of suitability for agricultural production, there were no clearly defined thresholds of suitability;

- excluding Class 1 lands would have largely excluded hydrogeologic Category 1 lands, and in addition, essentially restricted the search process to the portion of the candidate region to the south of Lake Ontario. Excluding Classes 1 and 2 lands would have restricted the search process still further to a few small scattered areas, with the exception of some large blocks of land in the Niagara Falls area;

- the area is most removed from the centroid of waste generation;

- the boundaries of the soil capability classes at the candidate area identification scale (1:126,000) were very inexact. If consideration of soil capability classes for exclusionary purposes

were deferred, it could be considered at a scale of analysis (1:50,000) where more precise spatial distinctions could be drawn between suitable and non-suitable areas. Operating at a scale of 1:50,000 would also be consistent with the scale of the CLI maps;

- the soil capability data did not address a number of considerations bearing on the potential for long-term agricultural use including, for example, agricultural land use, official plan designations and urban shadow influences on agricultural practice. Deferral of the exclusionary application of soil capability class data would allow soil capability to be considered jointly with a range of other concerns bearing on agricultural capability and use.

Although it was concluded that the CLI maps should not yet be used for exclusionary purposes, it was evident that there was a considerable variation across the candidate region. It was, therefore, concluded that the soil capability data maps could serve an important maintenance of choice role.

It was, however, concluded that specialty crops could be exclusionary for all facility components. As the agricultural report points out, specialty crops ..."represent highly intensive agricultural operations and as such are of prime importance to the agricultural sector. These crops can be grown under a relatively narrow range of soil and climatic conditions. Such lands are in short supply in the Province of Ontario and are considered by the Foodland Guidelines of the Ministry of Agriculture and Food as highest priority for protection as an agricultural land base for the future" (RMV, 1983, p.7).

The boundaries of specialty crop areas were quite precise. However, as indicated on Map 8 in the Map Portfolio, the delineation of broad candidate areas is not always possible. In many cases, specialty crop areas are small and scattered. It was, therefore, concluded that specialty crops would only be used to delineate candidate areas in

instances where there was a heavy concentration of such uses such that an outer boundary to a broad area could be defined. The smaller scattered areas of specialty crops would, it was concluded, be excluded during subsequent site selection stages.

The final agricultural parameter addressed the use, intensity and economic performance of agriculture. These data were all derived from the 1981 Census of Agriculture. Inasmuch as the data were only available on a municipality basis, and there were no clearly defined thresholds of suitability, it was concluded that they should not be used to exclude areas. There was, however, a considerable variation across the candidate region. It was, therefore, concluded that the data could serve a useful maintenance of choice role.

f) **Publicly-Held and Industrially Designated Lands**

Locating the facility on publicly-held and/or industrially designated lands would reduce the land use and land ownership impacts associated with the facility. Thus, it would not have been appropriate to exclude such areas.

However, it was also concluded, for the reasons cited below, that the search process should not be limited to such lands:

- industrial sites tend to be close to built-up areas. As a result, the opportunities for locating the facility away from built-up areas would be diminished;

- built-up areas tend to coincide with areas subject to the "heat island" air dispersion effect;

- limited siting opportunities on industrial and publicly-held lands exist within the candidate region. Very few of the industrial and publicly-held lands are located on the most hydrogeologically

suitable areas. With limited industrial and public-held siting opportunities north of Lake Ontario (on hydrogeologically suitable lands), the search process might quickly come down to a choice between public-held lands well removed from the 400-series highways and possessing marginal to unacceptable hydrogeologic conditions as compared with industrial and public lands in St. Catharines/Niagara Falls, well removed from the centroid of waste generation and, in many instances, possessing specialty crop/air dispersion constraints;

- many of the publicly-held sites are committed for other public purposes. This may also be the case for some of the private industrial sites and areas. Thus, the range of siting opportunities might tend to be overstated;

- the industrial designation includes a variety of industrial types, e.g. Prestige Industrial, General Industrial, Extractive Industrial. Some of these industrial uses may be inappropriate for the establishment of an OWMC facility;

- as the land use report points out, the data base employed in the mapping was not complete. Not all provincial agencies supplied the requested information. The land holdings of municipalities were also not included. In addition, only industrial lands in excess of 20 hectares were mapped.

Largely for the reasons cited above, it was further concluded that the search process for the incinerator and the physical/chemical treatment plant components should not be limited to industrial and public lands. In addition, it was recognized that the suitability of a site for an incinerator or physical/chemical treatment plant was only in part related to its ownership and land use designation. A further important consideration was the proximity of the site to a landfill site, as well as the nature of the land use along the access roads between the two

sites. It was, therefore, concluded that a wide variety of incinerator/physical/chemical treatment plant sites would be desirable in order to minimize potential access road impacts.

Although the publicly and industrially designated lands were not suitable for exclusionary purposes, there was sufficient variety across the candidate region for a useful maintenance of choice role.

g) **Urban Built-Up Areas**

It was concluded that urban built-up areas (see Map Portfolio - Map 9) should be treated as exclusionary. The major reasons for this conclusion included the following:

- the use of such areas would result in major direct impacts, e.g. the displacement of existing structures and land uses;

- the boundaries of urban built-up areas generally reinforced the urban heat island air dispersion constraint;

- the boundaries of urban built-up areas were well-defined;

- there was a limited likelihood of suitability within urban built-up areas;

- the exclusion of urban built-up areas did not appreciably reduce the range of siting opportunities for other siting factors.

It was also, however, concluded that the option of locating the physical/chemical treatment plant on a vacant parcel within the urban built-up area should be retained. This stipulation was intended to enhance the opportunities for locating the physical/chemical treatment plant in a non-agricultural setting.

h) Rural Population Densities

The rural population data (see Map Portfolio - Map 9), in common with the use intensity and economic performance indicators, were derived from the 1981 Census. It too was only available on a municipality basis. In addition there were no well-defined thresholds of suitability. As a result of the above, it was concluded that rural population density differences should not be used to exclude areas. There was, as indicated on Map 9 in the Map Portfolio, a considerable variation across the candidate region. It was, therefore, concluded that rural population density data would serve a useful maintenance of choice role.

4.4 STAGE 2 - EXCLUDE AREAS FOR ALL COMPONENTS

a) Introduction

A total of 46 areas were excluded for all facility components as indicated in Figure 4.1 (in pocket at back of report).

Table 4.4 (in pocket at back of report) highlights the primary reasons for exclusion as well as other limitations of the excluded areas. Reading from left to right across the columns, Table 4.4 enumerates the excluded areas, gives their approximate location, and indicates the primary excluding factors. The characteristics of the excluded areas are also specified.

The major reasons for their exclusion are summarized in Table 4.5 and are detailed below.

Table 4.5 Summary Reasons for Exclusion

● Primary ○ Secondary A Agricultural Use

Excluded Areas	Hydrodgeologic Conditions	Atmospheric Dispersion			Transportation Considerations	Specialty Agriculture	Major Built-up Areas	Other Considerations
		Lake Breezes	Topographic Influence	Urban Heat Islands	Proximity to 400 Series Highways			
EA1	●							
EA2	●							A
EA3	●							
EA4	●							A
EA5	●							
EA6	●							A
EA7	●							
EA8	●	○			○			A
EA9	●							
EA10	●							
EA11	●							
EA12	●							
EA13	●							
EA14	●							
EA15	●							
EA16	●							
EA17	●							A
EA18	●	○						
EA19	●							
EA20	●	○					○	
EA21	●	○				○		
EA22	●	○		○			○	
EA23	●		○					A
EA24	●	○					○	A
EA25	●	○	○					A
EA26	●	○						
EA27	●	○						
EA28		●	●	●		●		A
EA29		●	●			●		A
EA30		●						
EA31		●						
EA32		●						
EA33		○			●			
EA34	○	○		○			●	
EA35	○						●	
EA36	○						●	
EA37	○		○				●	
EA38	○						●	
EA39				○			●	
EA40	○			○			●	
EA41	○						●	
EA42		○	○	○			●	A
EA43	○			○			●	
EA44	○	○		○			●	
EA45		○					●	
EA46	○	○					●	

b) Hydrogeologic Constraints - A Areas[1]

The A Area (Excluded Areas EA1 to EA27) all represent hydrogeologic Categories 3 and 4. As such, they offer limited likelihood of suitability for any of the facility components. Considerable variability exists in the geologic composition and subsurface conditions of these areas. In addition, the Category 4 areas contain less than 10 m of silt-clay soils. These hydrogeologic conditions would not provide the natural containment necessary to ensure a second level of environmental protection.

A substantial portion of the A Area, indicated as A-1 on Figure 4.1 and on Map 1 in the Map Portfolio, was identified initially as having the lowest priority for facility siting because of its complex and variable soil conditions. The probability of finding suitable soil conditions in Area A-1 was considered low given the known widespread occurrence of buried sand at several levels. When the balance of the candidate region was studied in more detail, the remaining A areas were identified.

However, in reviewing the characteristics of the candidate areas, it was apparent that only small parcels of publicly held and industrially designated lands would remain for subsequent analysis if Area A-1 were excluded at this stage of the search and selection process. Therefore, OWMC decided to proceed with a further level of hydrogeologic investigations for Area A-1 to maximize the opportunities for identifying candidate sites on non-agricultural land.

c) Air Dispersion Constraints - B Areas

Atmospheric dispersion is a significant constraint in the B Areas shown on Map 1 in the Map Portfolio. Although this factor is particularly

[1] The A, B, C, and D areas are shown on Figure 4.1 (in pocket at back of report).

important for the incinerator, atmospheric dispersion is also a consideration for the physical/chemical treatment plant and the engineered landfill as discussed earlier.

The two B areas (EA28 and EA29), located to the east and west of St. Catharines, were excluded for the following reasons:

- EA28, the small area to the west of St. Catharines is affected by all three air dispersion influences - lake breeze, urban heat island and topography. Much of the area has two of the three constraints. In view of the small size of the area and the general nature of the boundaries of the air dispersion zones of influence, the complexity of the air dispersion influences in the area would preclude the establishment of an incinerator in the area;

- EA29, to the east of St. Catharines, includes both the lake breeze and topographic zones of influence;

- both EA28 and EA29 are almost entirely used for specialty crops;

- both EA28 and EA29 have high rural population densities;

- EA29 is not hydrogeologically suitable for the establishment of a landfill or a fully integrated facility. Although EA28 and EA29 (for incinerator/physical/chemical treatment plant components) possess desirable hydrogeologic conditions, there are comparable areas with similar transportation characteristics but lacking the specialty crops and air dispersion characteristics possessed by EA28 and EA29;

- EA28 and EA29 possess some small parcels of industrial and public land. Again, however, there are comparable areas in the vicinity which lack the constraints possessed by EA28 and EA29.

In addition to EA28 and EA29 there are three small strips of land located along the Niagara River subject to lake breeze effects - EA30, EA31, and EA32.

These three areas were excluded from further consideration for the following reasons:

- they are all subject to an air dispersion constraint;
- none of the three areas are hydrogeologically suitable for the establishment of fully integrated facilities. In the case of EA30 and EA31 there are comparable retained areas with immediate proximity to the QEW with no air dispersion constraints. With EA32, there are nearby retained areas with comparable access to the QEW with no air dispersion constraints;
- the three areas, especially EA32, are extremely remote from the centroid of waste generation;
- the three areas possess no agricultural advantages not shared by other retained areas in the immediate proximity;
- all three areas are in close proximity to built-up areas and possess high rural population densities;
- none of the three areas are publicly owned. Neither EA31 nor EA32 are industrially designated. Only a small portion of EA30 is industrially designated. There are a number of potentially suitable industrial areas in the same general vicinity with immediate access to the QEW and no air dispersion constraints.

No further areas were excluded because of air dispersion constraints for the following reasons:

- there were no other hydrogeologically suitable portions of the candidate region subject to more than one air dispersion constraint;

- the area to the north of Lake Ontario, subject to a topographic constraint, possessed a major offsetting benefit - proximity to the centroid of waste generation;

- the remaining portions of the candidate region, subject to air dispersion constraints, were subject to other exclusionary constraints with more precise boundaries, notably hydrogeologic constraints and built-up areas.

d) **Transportation Constraints - C Areas**

As previously noted two transportation indicators were employed - travel time from the theoretical centroid of waste generation for southern Ontario and travel time from the 400-series highways. The former was not used to exclude areas for the following reasons:

- among the areas most remote from the sources of waste generation were large areas highly suitable from a hydrogeologic perspective;

- the areas most remote from the sources of waste generation tended to be in quite close proximity to the 400-series highways;

- portions of the area most remote from the sources of waste generation possessed no air dispersion constraints;

- portions of the area most remote from the sources of waste generation were on CLI soil Classes 3 and 4. This contrasts with the predominance of Class 1 and 2 lands in the balance of the candidate region. Many of these areas were also not characterized by specialty crops and received the lowest ratings for the agricultural use intensity and economic performance indicators;

- the area was characterized by the largest concentration of industrial and public lands.

In contrast to the above, there did appear to be a rationale for using travel time contours from the 400-series highways to exclude areas. Using the 40 minute travel time contour would only have affected a small area, much of which was hydrogeologically unsuitable. Using the 20 minute travel time contour would have excluded almost all of the most hydrogeologically suitable areas in the candidate region. The 30 minute travel time contour was eventually selected as an appropriate basis for exclusion for the following reasons:

- the area affected included no hydrogeologic Category 1 lands. The area affected consisted primarily of Category 2B as well as some small pockets of Categories 2A, 3 and 4 soils. As is evident from Map 1 in the Map Portfolio, there remained large areas of Category 1 soils closer to the 400-series highways. There also remained larger areas of Category 2A soils in closer proximity to both the 400-series highways and to the centroid of waste generation;

- the absence of air dispersion influences in the area was shared by large areas with more suitable hydrogeologic and transportation characteristics;

- the area affected possessed no offsetting soil capability advantages (all Classes 1 and 2). The affected area was in the top range for percentage of area of municipality in census farms. Although the area received low ratings for the agricultural economic parameters, comparable conditions exist to the north and to the east in areas possessing more desirable hydrogeologic and transportation characteristics;

- the moderate rural population densities of the area were also shared by the more accessible areas with more suitable hydrogeologic conditions;

- there are no industrially designated lands in the affected area. The only public owned lands in the area is the Cayuga land assembly - an area previously determined to be unsuitable by OWMC.

e) **Specialty Crops**

With the exception of the previously addressed areas - EA28 and EA29 - no further areas were rejected because of specialty crop constraints. The major reasons for this conclusion were as follows:

- the only other major concentration of specialty crops were in the Nanticoke area and to the southeast and southwest of St. Catharines (See Map Portfolio - Map 8). In both cases, the areas were hydrogeologically unsuitable;

- the remaining specialty crop areas were small and scattered. It was therefore concluded that such areas could be avoided during subsequent site selection stages.

f) **Built-Up Areas - D Areas**

The D Areas (EAs 34 to 46) are completely built-up areas as identified from recent aerial photography (see Map Portfolio - Map 9). Although there are few opportunities to establish facility components within built-up areas, consideration will be given to industrially designated, vacant lands within built-up areas. At best, such lands would only be suitable for the establishment of a physical/chemical treatment plant. Such areas would tend to be too small for a landfill and inappropriate for an incinerator because of urban heat island constraints.

4.5 STAGE 3 - EXCLUDE AREAS FOR INDIVIDUAL COMPONENTS

The candidate areas remaining after the exclusion of the above areas are delineated on Figure 1.1 (p.2) and on Map 2 (see Map Portfolio). Some of the candidate areas are potentially suitable for all facility components. Others are potentially suitable for only one or two components. The major difference is the additional soil depth required for an engineered landfill. This soil depth distinction pertains to all candidate areas to the south of Lake Ontario with one exception - Candidate Area 8. A small area of 2A soils (see Figure 1.1) was not retained for consideration for all components because it abutted a large area of Categories 1A and 1B soils with comparable or better air dispersion, transportation, agricultural and land use/land ownership characteristics.

The presence of a single air dispersion constraint was also used to exclude areas for the incinerator. A single air dispersion constraint was not considered sufficient to exclude an area for an engineered landfill or a physical/chemical treatment plant if that area had offsetting desirable characteristics. The only areas affected by this constraint are Candidate Areas 1, 2 and 3 in the Milton area. All these areas are constrained by their proximity to the Niagara Escarpment. The major offsetting advantage of Candidate Areas 1, 2 and 3 is proximity of waste sources.

4.6 STAGE 4 - COMPLETE MAINTENANCE OF CHOICE ANALYSIS

Table 4.6 (Table 4 from the OWMC Interim Phase 3 Report) (in pocket at back of report) enumerates the candidate areas, gives their approximate location, indicates the possible facility components, specifies the environmental and land use characteristics and highlights site identification priorities. The candidate areas are shown on Figure 1.1.

When the candidate areas are compared, the following general patterns are evident:

- a large proportion of the candidate areas is potentially suitable for two or three facility components. Thus, considerable potential remains for fully or partially integrated facilities;

- there are large candidate areas (potentially) geologically/hydrogeologically suitable for an engineered landfill. An even larger proportion of the candidate areas is potentially geologically/hydrogeologically suitable for a physical/chemical treatment plant;

- a relatively small area north of Lake Ontario is potentially suitable for the facility components;

- air dispersion considerations affect a small share of the candidate areas;

- a considerable range of choice remains among the candidate areas concerning receiving waters for discharge of treated effluents;

- there is substantial variation among the candidate areas in travel time to the centroid and to the 400-series highways;

- a high proportion of the candidate areas is in soil capability Classes 1 and 2 although some of the candidate areas have Classes 3 and 4 lands. The prevalence of Classes 1 and 2 lands mirrors the general pattern characteristic of the Golden Horseshoe;

- the amount of specialty agriculture in the candidate areas is quite limited. It should be possible at the site identification stage to avoid the displacement of such uses;

- the candidate areas vary greatly in their proximity to urban centres as well as in their rural population densities;

- there is a limited amount of industrially designated and publicly held land in the candidate areas although there appears to be some potential for establishing sites in the vicinity of industrially designated areas. This limited range of choice led to a decision to undertake a further level of geologic/hydrogeologic analysis in Area A-1.

The environmental and land use characteristics of each excluded area were compared to the characteristics of all the candidate areas in Appendix C. This comparison was intended to ensure that no area was excluded with more suitable characteristics than the candidate areas and that the resulting range of options would not be too narrow.

The following points emerge from this comparative evaluation of each excluded area against all candidate areas:

- a majority of the excluded areas are clearly unsuitable for the siting of facility components based on the principles established in the search and selection process;

- although a few of the excluded areas have some desirable characteristics, these characteristics are also possessed by some of the candidate areas;

- the candidate areas offer a diversity of siting opportunities.

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APPENDIX A

FACTOR SHEETS

APPENDIX A: FACTORS FOR CANDIDATE AREA IDENTIFICATION

FACTOR GROUPING:	FACTOR:
ENVIRONMENT	HYDROGEOLOGY

FACILITY COMPONENTS AFFECTED: Engineered landfill, incinerator, and physical/chemical treatment plant.

DEFINITION OF FACTOR: The physical characteristics of the geologic materials, the stratigraphic relationships of the various geologic materials, their thickness and continuity.

RATIONALE/SIGNIFICANCE: The nature of the hydrogeologic setting is important when siting the three facility components. For the purposes of siting an engineered landfill, it is best to have at least 10 m of silt-clay soils. Increasing containment is afforded with greater soil thickness and predictability. Also, silt and clay textured soils provide the greatest amount of natural protection for ground water resources.

The same principles apply to the siting of the physical/chemical treatment plant and the incinerator. Assuming that no untreated substances will be buried at these components and that these facility components will likely have a finite life, it may be possible to site these components in areas containing lesser thicknesses of silt/clay materials.

In order to accommodate the large area of the Golden Horseshoe, a priority of study was placed on these lands so that OWMC can focus efforts on lands that appear to have a better likelihood of containing substantial depths of uniform and fine textured overburden deposits.

SOURCES OF INFORMATION: 1. "Data Resource Sheets" (OWMC October 1982) Primary Environmental Information - Part I - Geological/Hydrogeological Inventory (Inventory Mapping); 2. Water Well Plot Data; 3. Literature Review; 4. Quaternary History of the areas; 5. Recognized Geologic Experts familiar with the study area.

INTERPRETATION/METHODOLOGY: A re-evaluation of the geologic and hydrogeologic characteristics of the Golden Horseshoe in order to establish priorities among areas for the siting of facilities resulted in the delineation of eight geologic areas. The geologic and hydrogeologic characteristics of these areas are ranked in terms of their relative suitabilty for a landfill and for a physical/chemical treatment plant or an incinerator. The areas are assigned one of three priorities (A, B, or C) for an engineered landfill and one of two priorities (X or Y) for a physical/chemical treatment plant or an incinerator.

APPENDIX A: FACTORS FOR CANDIDATE AREA IDENTIFICATION (continued)

FACTOR GROUPING:	FACTOR:
ENVIRONMENT	HYDROGEOLOGY

To assist in the identification of candidate areas and to facilitate the description of candidate areas, a more detailed geologic investigation was undertaken of Priority Areas A, B, and X. The Priority Areas were subdivided into a series of smaller areas based on geologic properties. After hydrogeologic review of this work, a derived map was produced with a seven level hydrogeologic classification system. The classification system reflects differences in the depth and uniformity of soils.

CRITERIA/INDICATORS:

1. Depth of Silt/Clay Soils
2. Complexity of Soils

COMMENTS/ASSUMPTIONS/LIMITATIONS: Priority A indicates that there is a high probability of finding a suitable location for an engineered landfill in this geologic environment. Priority B indicates that there is a strong possibility of locating sites suitable for an engineered landfill within the area. The isolation of these more favourable zones will require a substantial amount of investigation; and, therefore, the area warrants a moderate or B priority. Priority C indicates that the likelihood of locating land suitable for an engineered landfill is substantially less than for other areas.

With respect to the incinerator and the physical/chemical treatment plant, all areas of the Golden Horseshoe underlain by silt/clay materials may be considered. Priority X indicates that there is a high possiblity of locating a physical/chemical treatment plant or incinerator sites in these areas. Priority Y indicates that considerable effort would be involved in locating suitable soil conditions and that there is no assurance that a physical/chemical treatment plant or incinerator site would be found.

APPENDIX A: FACTORS FOR CANDIDATE AREA IDENTIFICATION (continued)

FACTOR GROUPING:	FACTOR:
ENVIRONMENT	ATMOSPHERIC DISPERSION

FACILITY COMPONENTS AFFECTED: Incinerator

DEFINITION OF FACTOR: Atmospheric dispersion refers to the mixing and distribution of fugitive and stack emissions from the OWMC facility. Dispersion depends on prevailing atmospheric conditions, lake breezes, urban heat islands and topographic features.

RATIONALE/SIGNIFICANCE: Emissions to the atmosphere represent the major potential environmental impact that might arise from the operation of an incinerator. The selection of sites which minimize the potential for poor dispersion is one of the obvious avoidance measures that can be used to reduce the chance of any significant impact. The primary reason for avoiding poor and unpredictable dispersion conditions is to ensure that downwind concentrations of any emissions which might occur will not reach ground level concentrations in excess of recommended levels.

By avoiding areas where air dispersion constraints such as lake breezes, urban heat islands, and topographic features occur, both the frequency and intensity of periods in which abnormally high pollutant levels might occur are reduced. Also, the predictability and consistency of prevailing dispersion conditions are much greater in the absence of such constraints. For these reasons, the avoidance of sites which involve constraints leading to poor or complex dispersion conditions is an important criterion in the siting of an incinerator.

SOURCES OF INFORMATION: 1. Phase 1 Report - Primary Environmental Information, Part 4: Climatology (1982); 2. Literature Review; 3. Environment Canada Climatological Data; 4. Meteorological Data.

INTERPRETATION/METHODOLOGY: Climatological parameters which were assessed include air temperatures, frost, precipitation, fog, sunshine hours, surface winds, atmospheric stability, mixing heights, mixing layer winds, and ventilation coefficients. The effects of specific local features such as topography, lake breeze circulations, and urban heat islands were addressed in conjunction with these atmospheric parameters to provide an overall assessment of the potential for poor dispersion conditions to occur.

APPENDIX A: FACTORS FOR CANDIDATE AREA IDENTIFICATION (continued)

FACTOR GROUPING:	FACTOR:
ENVIRONMENT	ATMOSPHERIC DISPERSION

Based on the work done in earlier studies, the entire study area was classified according to the meteorological constraints on 12 1:50,000 overlay maps of the Golden Horseshoe as follows: 1 - represents an area with no meteorological constraints (desirable); 2 - represents an area under the influence of one or two meteorological constraints; 3 - represents an area under the influence of three meteorological constraints (unsuitable). A classification of 2 implies that a thorough review of the specific circumstances would be required before using such an area for the siting of an incinerator. A classification of 3 indicates that such an area is unlikely to be a satisfactory incinerator site in terms of dispersion conditions.

CRITERIA/INDICATORS:

1. Lake Breezes
2. Topography
3. Urban Heat Islands

COMMENTS/ASSUMPTIONS/LIMITATIONS: The subjective nature of the interpretations and assessments upon which the overlay maps are based must be emphasized. For example, the extent of areas over which poor dispersion conditions will exist as a result of lake breezes or other constraints are subject to diurnal, seasonal, and annual variations. Thus, the graphical representations of boundaries of each constraint provided on the maps should not be regarded as precise and accurate demarcations of the presence of absence of these influences. Rather, they represent the approximate zones of most probable influence that could be expected to occur under normal climatic conditions in Ontario.

More detailed assessments will form part of future studies concerned with candidate areas and sites.

APPENDIX A: FACTORS FOR CANDIDATE AREA IDENTIFICATION (continued)

FACTOR GROUPING:	FACTOR:
ENVIRONMENT	SURFACE WATERS

FACILITY COMPONENTS AFFECTED: Physical/chemical treatment plant.

DEFINITION OF FACTOR: This factor includes the various surface water environments in or adjacent to the Golden Horseshoe to aid OWMC in identifying candidate surface water receivers for treated waste water from their facilities.

RATIONALE/SIGNIFICANCE: To allow a preliminary assessment of surface water characteristics with regard to dispersion of a treated effluent from a physical/chemical treatment plant. River and lake environments in the Golden Horseshoe were reviewed. In an effort to maximize the potential for natural back-up or buffer in the event of an unforeseen accidental discharge, water bodies were assessed in terms of the consistency of the dispersion and transport characteristics as well as the dilution capability of rivers during low flow periods. To minimize the possibility of interference of a treated liquid discharge from a physical/chemical treatment plant with important surface water uses, the locations of major surface water uses were determined.

SOURCES OF INFORMATION: 1. Published Water Use Data; 2. Literature Review; 3. Agency Contacts; 4. Ontario Ministry of Natural Resources Data.

INTERPRETATION/METHODOLOGY: The analysis of surface water uses and surface water dispersion resulted in a map which shows four categories of surface water bodies in the Golden Horseshoe that may be considered to receive OWMC effluent. The categories are based on general dispersion capabilities and possible interference with important water uses.

APPENDIX A: FACTORS FOR CANDIDATE AREA IDENTIFICATION (continued)

FACTOR GROUPING:	FACTOR:
ENVIRONMENT	SURFACE WATERS

CRITERIA/INDICATORS: Distance in kilometers from category 1; i.e., high flow or consistent dispersion characteristics; low possibility of use interference.

COMMENTS/ASSUMPTIONS/LIMITATIONS: The boundaries of the four categories are approximate. Physical/chemical treatment plant effluent would receive the best available treatment using proven technology.

APPENDIX A: FACTORS FOR CANDIDATE AREA IDENTIFICATION (continued)

FACTOR GROUPING:	FACTOR:
ENVIRONMENT	TRANSPORTATION

FACILITY COMPONENTS AFFECTED: Engineered landfill, incinerator, and physical/chemical treatment plant.

DEFINITION OF FACTOR: Existing road system - the facilities available, the hierarchy of various elements of the system and the operational characteristic of each element, and distances.

RATIONALE/SIGNIFICANCE: Transportation is an important factor to minimize travel distance and the costs of transporting wastes. Lower travel distances reduce risk by minimizing the likelihood of a release of special waste occurring.

SOURCES OF INFORMATION: Waste Quantities Study, OWMC, Proctor & Redfern Limited, Weston Designers - Consultants, Ontario Research Foundation, August 1982.

INTERPRETATION/METHODOLOGY: The methodology used to establish a theoretical centroid of waste generation was the traditional measure of physical centre of gravity based on weight and distance. The weight of waste was taken from the Waste Quantities Study. Distances were measured from the centre of each municipality intially using airline distances.

A number of measures were used to show the spatial relationship of potential candidate areas to the centroid. These measures included airline distances, roadway distances, travel times, and travel risks based on road distance, speeds on various classes of roads, and generalized accident rates (provincial averages for 1981). Proximity to freeways was indicated in both distance and time. Distances were measured and travel times calculated assuming an average speed of 50 km/h for all roads. The freeway system used in the calculations was the existing system plus the proposed Highway 403 completed between Brantford and Hamilton and Highway 406 from the QEW to Robinson Road.

APPENDIX A: FACTORS FOR CANDIDATE AREA IDENTIFICATION (continued)

FACTOR GROUPING:	FACTOR:
ENVIRONMENT	TRANSPORTATION

CRITERIA/INDICATORS:

1. Travel Time in Minutes from Theoretical Centroid of Waste Generation
2. Travel Time in Minutes from 400-Series Highways

COMMENTS/ASSUMPTIONS/LIMITATIONS: The calculation of the theoretical centroid of waste generation was undertaken for Southern Ontario for the following reasons: 1. 95% of Ontario's waste is generated in Southern Ontario; 2. the waste from Northern Ontario may be handled in a different manner because of the distances involved; and 3. the Selected Geographic Region for waste disposal, identified in Phase II, is in Southern Ontario. This calculation was performed using airline distances which was deemed suitable for this phase of the work.

Most of the major centres where waste would be generated are on or close to a freeway. Therefore, proximity to the freeway at the disposal end is important. The closer the freeway to the disposal area, the greater the ratio of freeway kilometers to total kilometers of travel. All other factors being equal, the closer the proximity to a freeway the more suitable is an area for access.

APPENDIX A: FACTORS FOR CANDIDATE AREA IDENTIFICATION (continued)

FACTOR GROUPING:	FACTOR:
LAND USE	AGRICULTURE

FACILITY COMPONENTS AFFECTED: Engineered landfill, incinerator, and physical/chemical treatment plant.

DEFINITION OF FACTOR: Agriculture refers to those farming activities which result in the production of crops and/or livestock.

RATIONALE/SIGNIFICANCE: The possible removal of land from agricultural production is a concern of the site selection process. In addition, the potential impact of incinerator emissions on crop and animal production is a concern.

SOURCES OF INFORMATION: 1. The Canada Land Inventory Soil Capability for Agriculture; 2. County Soils Maps and Reports; 3. Agricultural Land Use Maps of the Ministry of Agriculture and Food and Agriculture Canada; 4. 1981 Census Data on Agriculture.

INTERPRETATION/METHODOLOGY: The agricultural parameters introduced at this stage in the process provide some characterization of the agricultural features.

In order to carry out a comparative analysis in the selection of candidate areas, it is important to have consistent data on a regional basis. New data could not be generated because of time constraints, and any data used should be in a published and readily available form. Data was available in map and tabular form. The map data had to be generalized and features highlighted. The tabular material for the townships and municipalities had to be programmed and indices or values developed.

APPENDIX A: FACTORS FOR CANDIDATE AREA IDENTIFICATION (continued)

FACTOR GROUPING:	FACTOR:
LAND USE	AGRICULTURE

The County soil survey maps were reviewed, but the data was found to be too complex to be utilized in the agricultural analysis. Further, this data overlapped with the hydrogeologic data already prepared. The Canada Land Inventory Soil Capability for Agriculture data was used for expressing agricultural capability. It was derived from the County soils maps and hence provides a generalized expression of the capability of the soils.

CRITERIA/INDICATORS:

1. Land capability for agriculture
2. Current land use patterns
3. Agricultural census material for each township or municipality identifying the following characteristics:
   - i) Percent area of township or municipality in census farm
   - ii) Average value of sales per improved acre
   - iii) Average capital value per census farm acre

COMMENTS/ASSUMPTIONS/LIMITATIONS: The fundamental consideration in the selection of candidate areas has to be that the area and facility must be environmentally safe. In this respect, while agriculture is a user of land, agricultural use should not be used to exclude areas from consideration. It should be used in the evaluation of areas and to establish priorities.

FACTOR GROUPING: LAND USE	FACTOR: PUBLICLY-HELD AND INDUSTRIALLY DESIGNATED LANDS

FACILITY COMPONENTS AFFECTED: All facility components.

DEFINITION OF FACTOR: Publicly-held lands include those lands owned by federal, provincial or municipal agencies. Industrially designated lands are those lands designated in official plans for industrial uses but currently vacant and lands for which application has been made for planning approval of development including official plan amendments, draft plans of subdivision and rezoning applications.

RATIONALE/SIGNIFICANCE: Land use factors were employed to ensure that significant siting opportunities would not be lost through the process of eliminating portions of the candidate region on the basis of regional environmental characteristics. The land use factors were also employed to ensure that the remaining range of siting options was not too narrow or restricted.

SOURCES OF INFORMATION: For publicly held lands: 1. Ontario Ministry of Government Services provincially-owned land computer files; 2. Ontario Hydro list of surplus land; 3. Ontario Ministry of Transportation and Communications list of surplus land; 4. Ontario Land Corporation land assemblies list/mapping; 5. the Federal government's central Real Property Inventory List. For Industrial Lands: Approved local and regional Official Plans and their amendments.

INTERPRETATION/METHODOLOGY: Publicly held lands in exceess of 20 ha (approximately 50 acres) have been identified and mapped based upon the information received from various provincial and federal agencies.

The industrial designations are those shown in approved local and regional Official Plans and their amendments. Where a conflict exists between the local and regional plans, the more extensive of the two areas is shown. All types of land use designation which are in any way industrial in nature have been included. No estimate has been made of the amount of available land in these areas for future development.

APPENDIX A: FACTORS FOR CANDIDATE AREA IDENTIFICATION (continued)

FACTOR GROUPING: LAND USE	FACTOR: PUBLICLY-HELD AND INDUSTRIALLY DESIGNATED LANDS

CRITERIA/INDICATORS:

1. Publicly-held lands in excess of 20 ha (approximately 50 acres)
2. Industrially designated lands in approved local and regional Official Plans and their amendments

COMMENTS/ASSUMPTIONS/LIMITATIONS: Data on publicly-held lands, land holdings of other Federal and Provincial Crown corporations, municipalities, and other public agencies (such as Conservation Authorities) are not included. Since the mapping of publicly owned land does not include all of the Ministry of Government Services' land holdings in the Parkway Belt West or municipally owned land, this information is being reviewed and updated for the next phase in the site selection process.

With respect to industrially designated lands, no review has been made of the policies which apply to each of the industrial land use designations as to permitted uses and whether or not waste treatment facilities might appropriately be located in these areas.

While every effort has been made to ensure that up-to-date Official Plan amendments have been reviewed, certain amendments currently being processed by local or regional municipalities or not on file with OWMC or the Ministry of Municipal Affairs and Housing may have been omitted.

APPENDIX A: FACTORS FOR CANDIDATE AREA IDENTIFICATION

FACTOR GROUPING:	FACTOR:
LAND USE	URBAN BUILT-UP AREAS

FACILITY COMPONENTS AFFECTED: All facility components.

DEFINITION OF FACTOR: "Urban Area refers to an area having a population concentration of 1,000 or more and a population density of 400 or more persons per km^2" (Statistics Canada).

RATIONALE/SIGNIFICANCE: Land use factors were employed to ensure that significant siting opportunities would not be lost through the process of eliminating portions of the candidate region on the basis of regional environmental characteristics. The land use factors were also employed to ensure that the remaining range of siting options was not too narrow or restricted.

SOURCES OF INFORMATION: 1. Ontario Ministry of Natural Resources aerial photography; 2. Statistics Canada.

INTERPRETATION/METHODOLOGY: In delineating the extent of built-up urban areas, care was taken in order to maintain as great a range of potential sites as possible. As a result, only vacant, open space, and rural lands which are completely surrounded by urban uses and which are not on the edge of the urban built-up area are included in the built-up urban area. All other non-urban uses which might be on the edge of the urban area are excluded from the built-up area as much as possible.

In differentiating between urban and rural areas, the Statistics Canada definition of urban areas was used. Accordingly, communities thought to be less than 1,000 persons have not been disaggregated from rural areas. Hamlets, villages, and estate residential developments have not been identified separately if their total population is below this figure. Similarly, rural industrial uses and airports have not been shown separately.

Communities were grouped into the two categories of over 20,000 population and under 20,000 (but over 1,000) population. Consideration was given only to each urban concentration in the municipality, and continuous urban areas extending over municipal boundaries were considered to be one community.

APPENDIX A: FACTORS FOR CANDIDATE AREA IDENTIFICATION (continued)

FACTOR GROUPING:	FACTOR:
LAND USE	URBAN BUILT-UP AREAS

CRITERIA/INDICATORS:

1. Over 20,000 population
2. Under 20,000 (but over 1,000) population

COMMENTS/ASSUMPTIONS/LIMITATIONS: The boundaries of the urban built-up areas on the maps are not precise but merely indicative because of the scale of the base mapping (1:280,000). Detailed land use investigations will be necessary at subsequent stages of the site selection process.

Precise data on community size and community population density was not always available. Estimations of community size were sometimes necessary.

APPENDIX A: FACTORS FOR CANDIDATE AREA IDENTIFICATION (continued)

FACTOR GROUPING:	FACTOR:
LAND USE	RURAL POPULATION DENSITY

FACILITY COMPONENTS AFFECTED: All facility components.

DEFINITION OF FACTOR: Rural areas of a municipality were considered to be all non-urban areas, which are defined based upon the Statistics Canada definition of urban area. Rural population densities were determined on an area-wide municipality basis for each of the municipalities in the study area.

RATIONALE/SIGNIFICANCE: Land use factors were employed to ensure that significant siting opportunities would not be lost through the process of eliminating portions of the candidate region on the basis of regional environmental characteristics. The land use factors were also employed to ensure that the remaining range of siting options was not too narrow or restricted.

SOURCES OF INFORMATION: 1. 1981 Canada Census; 2. Aerial Photography; 3. Municipal Planning Departments.

INTERPRETATION/METHODOLOGY: Rural population densitites were determined on an area-wide municipality basis for each of the municipalities in the study area. Rural population figures were obtained from the 1981 Census and augmented where necessary with information from municipal planning departments to obtain the rural/urban population split. The rural area (expressed in square kilometres) of a municipality was obtained by subtracting the area devoted to urban uses as determined through air photo interpretation from the total area of the municipality as defined in the Census.

APPENDIX A: FACTORS FOR CANDIDATE AREA IDENTIFICATION (continued)

FACTOR GROUPING:	FACTOR:
LAND USE	RURAL POPULATION DENSITY

CRITERIA/INDICATORS:

Categories:

0-19 persons per km^2

20-40 persons per km^2

more than 40 persons per km^2

COMMENTS/ASSUMPTIONS/LIMITATIONS: These calculated rural population densities should only be considered as generally indicative of regional population trends as they extend over an entire municipality.

APPENDIX B

CHARACTERISTICS OF HYDROGEOLOGIC CATEGORIES

TABLE B.1
CHARACTERISTICS OF HYDROGEOLOGIC CATEGORIES

Category 1a

Subsurface conditions in Category 1a generally consist of greater than 30 m deep silt-clay soils with lateral and vertical textural uniformity. Water supplies are developed primarily in the underlying bedrock. Ground water and contaminant movement rates through the soil are predictable and slow, and the soil is expected to have a high attenuation capability. As such, the hydrogeologic setting should provide natural containment of potential contaminants.

Category 1b

Subsurface conditions in Category 1b generally consist of 20-30 m deep silt-clay soils with lateral and vertical textural uniformity. Water supplies are developed primarily in the underlying bedrock. Ground water and contaminant movement rates through the soil are predictable and slow, and the soil is expected to have a high attenuation capability. As such, the hydrogeologic setting should provide natural containment of potential contaminants.

TABLE B.1
CHARACTERISTICS OF HYDROGEOLOGIC CATEGORIES

Category 1c

Subsurface conditions in Category 1c generally consist of 10-20 m deep silt-clay soils with lateral and vertical textural uniformity. Water supplies are developed primarily in the underlying bedrock. Ground water and contaminant movement rates through the soil are predictable and slow, and the soil is expected to have a high attenuation capability. As such, the hydrogeologic setting should provide natural containment of potential contaminants.

Category 2a

Subsurface conditions in Category 2a consist of 20-30 m deep silt-clay soils which may be locally intermixed with sand. Water supplies are developed in the sand and in the underlying bedrock. Ground water and contaminant movement rates through these materials and their respective attenuation capabilities are expected to vary. The hydrogeologic setting may provide natural containment of potential contaminants locally.

TABLE B.1
CHARACTERISTICS OF HYDROGEOLOGIC CATEGORIES

Category 2b

Subsurface conditions in Category 2b generally consist of 10-20 m deep silt-clay soils which may be locally intermixed with sand. Water supplies are developed in the sand and in the underlying bedrock. Ground water and contaminant movement rates through these materials and their respective attenuation capabilities are expected to vary. While the hydrogeologic setting may provide natural containment of potential contaminants locally, the identification of these areas would require site-specific investigation.

Category 3

Subsurface conditions in Category 3 generally consist of a variety of geologic materials of variable thickness. Sand is common throughout the stratigraphic sequence. Water supplies are developed in the sand and in the underlying bedrock. The sand allows rapid movement of potential contaminants and does not provide containment of potential contaminants in their natural state.

Category 4

Subsurface conditions in Category 4 generally consist of less than 10 m of silt-clay soils. These soils may be underlain or intermixed with sand or by near-surface bedrock.

APPENDIX C

COMPARISONS OF AREAS EXCLUDED VERSUS CANDIDATE AREAS

The columns represent the 19 candidate areas plus comments on the comparison of the excluded area to all the candidate areas in terms of each characteristic. The rows represent each of the characteristics of the excluded areas; i.e., depth of silt-clay soils, complexity of soils, lake breezes, topographic influence, urban heat islands, distance from Category 1 (km), travel time (minutes) from the centroid, travel time (minutes) from 400-series highways, soil capability, specialty agriculture, % township in farming, capital value/acre ($), annual sales/improved acre, proximity (km) to urban built-up areas, rural population density, publicly-held land, and industrially designated land.

Reading from left to right in Appendix C, the depth of soil of EA1 is compared to the soil depth of each candidate area and indicated as greater, lesser, or equivalent (G, L, and E, respectively). Thus EA1 has less soil depth than all 19 candidate areas as indicated in Appendix C.

EXCLUDED AREA 1 (EA1)

CHARACTERISTICS	CANDIDATE AREAS (CA) 1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	COMMENTS
DEPTH OF SILT/ CLAY SOILS (METRES)	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	EA1 has less soil depth (<10 m) than all CAs (predominantly 10-20 m for CAs 1, 2, and 4-13 inclusive and predominantly 20-30 m for CAs 3 and 14-19 inclusive). All CAs are preferable to EA1 hydrogeologically.
COMPLEXITY OF SOILS	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	EA1 has more complex soils with a sand or bedrock underlayer than CAs 1-3 inclusive, 5, 9-13 inclusive, 15, 18, and 19 which have uniform soils and CAs 4, 6, 7, 8, 14, 16, and 17 which have locally intermixed soils. All CAs are preferable to EA1 hydrogeologically.
LAKE BREEZES	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	EA1 and all CAs are not affected by lake breezes. All 19 CAs are comparable to EA1 for atmospheric dispersion.
TOPOGRAPHIC INFLUENCE	L	L	L	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	Although EA1 has no topographic influence, neither do CAs 4-19 inclusive. 16 CAs (4-19 inclusive) are comparable to EA1 for atmospheric dispersion.
URBAN HEAT ISLANDS	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	EA1 and all CAs are not affected by urban heat islands. All 19 CAs are comparable to EA1 for atmospheric dispersion.
DISTANCE FROM CATEGORY 1 (KM)	L	L	L	L	L	L	L	L	L	L	E	G	G	L	L	L	L	L	G	Although EA1 is generally closer (5-15 km) to category 1 waters than 15 CAs, 3 CAs (12, 13, and 19) are generally closer to category 1 waters than EA1; and 1 CA (11) is an equivalent distance.
TRAVEL TIME (MINUTES) FROM CENTROID	G	G	G	G	G	L	L	L	L	L	L	L	L	L	G	L	L	L	L	Although EA1 is closer to the centroid (<30-45 min.) than 13 CAs (6-14 inclusive and 16-19 inclusive), 6 CAs (1-5 inclusive and 15) are closer to the centroid than EA1 <15 min. for CAs 1-3 inclusive and 15; <15-30 min. for CA5; and 15-45 min. for CA 4).
TRAVEL TIME (MINUTES) FROM 400-SERIES HIGHWAYS	E	L	E	E	L	L	L	L	L	L	L	L	E	E	L	L	L	L	E	Although EA1 is generally closer (<10 min.) to 400-series highways than 13 CAs (2, 5-12 inclusive, and 15-18 inclusive), 6 of the CAs (1, 3, 4, 13, 14, and 19) are as close to 400-series highways (<10 min.); and no CA is more than 30 min. distant.
SOIL CAPABILITY CLI CLASSES	E	L	E	L	E	E	G	G	G	G	E	G	G	L	L	E	G	G	G	Although EA1 has a higher class of soil (predominantly Class 1) than 9 CAs (7-10 inclusive, 12, 13, and 17-19 inclusive), 4 CAs (2, 4, 14, and 15) have a higher class of soil (Class 1); and 6 CAs (1, 3, 5, 6, 11, and 16) have equally as good soil.

SPECIALTY AGRICULTURE	E E E E L L E L L L L E E E E L E L E	Although EA1 has limited specialty agriculture, 11 CAs (1-4 inclusive, 7, 12-15 inclusive, 17, and 19) also have limited specialty agriculture.
% TOWNSHIP IN FARMING	L L L E L L L L L L L L E L L L L L E	Although EA1 is located in a municipality with less farming activity (<40%) than the majority of CAs, there are 3 CAs (4, 13, and 19) which also have <40% of the township in farming. CAs 7, 14, 16, and 18 also have portions with <40% township in farming. CAs 1, 2, 3, 9, 10, 12 and 18 have portions with 40-50% of the township in farming.
CAPITAL VALUE PER ACRE ($)	G G G E G G G G G G G G E G G G G G	EA1 has a higher capital value/acre (>$9,000) than CAs 1-3 inclusive, 5-13 inclusive, and 15-19 inclusive with equivalent amounts to CAs 4 and 14. 17 CAs are preferable to EA1, and 2 CAs are equivalent.
ANNUAL SALES PER IMPROVED ACRE ($)	L L L E L E G G L L E G G E L G G L G	Although EA1 has lower annual sales/improved acre ($300-$599) than 8 CAs (1-3 inclusive, 5, 9, 10, 15, and 18), 7 CAs (7, 8, 12, 13, 16, 17, and 19) have lower annual sales/improved acre; and 4 CAs (4, 6, 11, and 14) have an approximately equivalent amount.
PROXIMITY TO URBAN BUILT-UP AREAS (KM)	E L L E E L L L L L L L E E L L L E L	EA1 is closer to an urban built-up area (<1 km Mississauga) than CAs 2, 3, 6-12 inclusive, 15-17 inclusive, and 19. CA 1, 4, 5, 13, 14 and 18 are also <1 km from urban built-up areas. 7 CAs are a comparable distance from population centres, while 12 CAs are more remote offering a range of options for site selection.
RURAL POPULATION DENSITY (PERSONS/KM^2)	L L L E L L L L L L L L L L L E L L L	Although EA1 has a lower rural population density (0-19 persons/km^2) than the majority of CAs, there are 2 CAs (4 and 16) with the same rural population density (0-19 persons/km^2); and there are also 6 CAs (7, 10, 13, 14, 16, and 19) with large portions with 0-19 persons/km^2 densities.
PUBLICLY OWNED LAND	E L E E L E E E E E L E E E E E E E E	Two CAs (2 and 5) contain publicly owned land, and 1 CA (3) appears immediately adjacent to publicly owned land. EA1 has no publicly owned land (similar to 17 CAs).
INDUSTRIALLY DESIGNATED LAND	G G G E G E E G G G G E G G G G E G	Although EA1 contains some industrially designated land, 5 CAs (4, 6, 7, 13, and 18) contain industrially designated lands; and 3 CAs (12, 14, and 19) appear adjacent to industrially designated lands.

SUMMARY: EA1 was primarily excluded for hydrogeologic reasons (<10 m soil depth and a sand or bedrock underlayer). Although EA1 has a lower % township in farming (<40%) than most CAs and contains some industrially designated lands, there are a number of CAs which have similar characteristics. EA1 does not possess any other preferred characteristics that are not possessed by some CAs.

L = LESSER G = GREATER E = EQUIVALENT

EXCLUDED AREA 2 (EA2)

CHARACTERISTICS	CANDIDATE AREAS (CA) 1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	COMMENTS
DEPTH OF SILT/CLAY SOILS (METRES)	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	EA2 has generally less soil depth (variable and portions <10 m) than all CAs (predominantly 10-20 m for CAs 1, 2, and 4-13 inclusive and predominantly 20-30 m for CAs 3 and 14-19 inclusive). All CAs are preferable to EA2 hydrogeologically.
COMPLEXITY OF SOILS	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	EA2 has more complex soils, predominantly sandy soils with portions having a sand or bedrock underlayer, than CAs 1-3 inclusive, 5, 9-13 inclusive, 15, 18, and 19 which have uniform soils and CAs 4, 6, 7, 8, 14, 16, and 17 which have locally intermixed soils. All CAs are preferable to EA2 hydrogeologically.
LAKE BREEZES	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	EA2 and all CAs are not affected by lake breezes. All 19 CAs are comparable to EA2 for atmospheric dispersion.
TOPOGRAPHIC INFLUENCE	E	E	E	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	EA2 has a topographic influence similar to CAs 1-3 inclusive. 16 CAs (4-19 inclusive) have no topographic influence and are preferable to EA2 for atmospheric dispersion.
URBAN HEAT ISLANDS	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	EA2 and all CAs are not affected by urban heat islands. All 19 CAs are comparable to EA2 for atmospheric dispersion.
DISTANCE FROM CATEGORY (KM)	G	G	G	G	G	G	L	L	G	G	G	G	G	G	G	L	L	G	G	EA2 is generally farther (10-35 km) from category 1 waters than 15 CAs (1-6 inclusive, 9-15 inclusive, 18, 19). 4 CAs (7, 8, 16, and 17) are generally farther from category 1 waters than EA2.
TRAVEL TIME (MINUTES) FROM CENTROID	G	G	G	L	G	L	L	L	L	L	L	L	L	L	G	L	L	L	L	Although EA2 is generally closer to the centroid (<15-45 min.) than CAs 4, 6-14 inclusive and 16-19 inclusive, 5 CAs (1-3 inclusive, 5, and 15) are closer to the centroid than EA2 (<15 min. for CAs 1-3 inclusive and 15; <15-30 min. for CA5).
TRAVEL TIME (MINUTES) FROM 400-SERIES HIGHWAYS	E	L	E	E	L	L	L	L	L	L	L	L	E	E	L	L	L	L	E	Although EA2 is generally closer (<10 min.) to 400-series highways than CAs 2, 5-12 inclusive, and 15-18 inclusive, 6 CAs (1, 3, 4, 13, 14, and 19) are as close to 400-series highways (<10 min.); and no CA is more than 30 min. distant.
SOIL CAPABILITY CLI CLASSES	E	L	E	L	E	E	G	G	G	G	E	G	G	L	L	E	G	G	G	Although EA2 has a higher class of soil (predominantly Class 1) than 9 CAs (7-10 inclusive, 12, 13, and 17-19 inclusive), 4 CAs (2, 4, 14, and 15) have a higher class of soil (Class 1); and 6 CAs (1, 3, 5, 6, 11, and 16) have equally as good soil.

SPECIALTY AGRICULTURE	G G G G L E G E L E E G G G G E G L G	EA2 has more specialty agriculture (scattered) than 11 CAs (1-4 inclusive, 7, 12-15 inclusive, 17, and 19) which have limited specialty agriculture.
% TOWNSHIP IN FARMING	E E E G E E G L L G E G G G E E L L G	EA2 has a larger % township in farming (predominantly 60-80%) than 7 CAs (4, 7, 10, 12-14 inclusive, and 19) and an approximately equivalent amount to 8 CAs (1-3 inclusive, 5, 6, 11, 15, and 16).
CAPITAL VALUE PER ACRE ($)	G G G L G G G G G L G G G L G G G G G	EA2 has a higher capital value/acre (predominantly $3,000-$5,999 and some areas >$9,000) than 16 CAs (1-3 inclusive, 5-9 inclusive, 11-13 inclusive, and 15-19 inclusive).
ANNUAL SALES PER IMPROVED ACRE ($)	L E L G L G G G L L G G G G L G G E G	EA2 has higher annual sales/improved acre (predominantly $300-$599) than 11 CAs (4, 6-8 inclusive, 11-14 inclusive, 16, 17, and 19) and an approximately equivalent amount to 2 CAs (2 and 18).
PROXIMITY TO URBAN BUILT-UP AREAS (KM)	E L L E E L L L L L L L E E L L L E L	EA2 is closer to urban built-up areas (<1 km Milton, <1 km Brampton, and <1 km Mississauga) than CAs 2, 3, 6-12 inclusive, 15-17 inclusive, and 19. CAs 1, 4, 5, 13, 14, and 18 are also <1 km from urban built-up areas. 7 CAs are a comparable distance from population centres, while 12 CAs are more remote offering a range of options for site selection.
RURAL POPULATION DENSITY (PERSONS/KM^2)	G G G G G E G E E E G G E G G G E E G	EA2 has a greater rural population density (predominantly 20-40 persons/km^2 with some 0-19 and >40 persons/km^2 areas) than 12 CAs (1-5 inclusive, 7, 11, 12, 14-16 inclusive, and 19) and an approximately equivalent density to 7 CAs (6, 8-10 inclusive, 13, 16, and 17).
PUBLICLY OWNED LAND	G E G G E G G G G G G G G G G G G G G	Although EA2 has some publicly owned land within its boundaries and immediately adjacent, 2 CAs (2 and 5) contain publicly owned land; and 1 CA (3) has publicly owned land immediately adjacent.
INDUSTRIALLY DESIGNATED LAND	G G G E G E E G G G G G E G G G G E G	Although EA2 contains industrially designated land, 5 CAs (4, 6, 7, 13, and 18) contain industrially designated lands; and 3 CAs (12, 14, and 19) appear adjacent to industrially designated lands.

SUMMARY: EA2 was primarily excluded for hydrogeologic reasons (predominantly variable soil depth with portions <10 m deep and predominantly sandy soil with portions underlain by sand or bedrock). Although EA2 has some publicly owned land, 2 CAs (2 and 5) contain publicly owned land as well. Also, EA2 has more specialty agriculture, more of its townships in farming, a higher capital value/acre, and greater annual sales/improved acre than the majority of CAs. EA2 is also closer to urban built-up areas than a majority of CAs. EA2 has no preferred characteristics which are not possessed by some of the other CAs.

L = LESSER G = GREATER E = EQUIVALENT

EXCLUDED AREA 3 (EA3)

CHARACTERISTICS	CANDIDATE AREAS (CA) 1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	COMMENTS
DEPTH OF SILT/ CLAY SOILS (METRES)	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	EA3 has less soil depth (predominantly <10 m) than all CAs (predominantly 10-20 m for CAs 1, 2, and 4-13 inclusive and predominantly 20-30 m for CAs 3 and 14-19 inclusive). All CAs are preferable to EA3 hydrogeologically.
COMPLEXITY OF SOILS	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	EA3 has more complex soils, with a sand or bedrock underlayer, than all CAs. CAs 1-3 inclusive, 5, 9-13 inclusive, 15, 18, and 19 have uniform soils; and CAs 4, 6, 7, 8, 14, 16, and 17 have locally intermixed soils. All CAs are preferable to EA3 hydrogeologically.
LAKE BREEZES	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	EA3 and all CAs are not affected by lake breezes. All 19 CAs are comparable to EA3 for atmospheric dispersion.
TOPOGRAPHIC INFLUENCE	L	L	L	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	Although EA3 has no topographic influence, neither do CAs 4-19 inclusive. 16 CAs (4-19 inclusive) are comparable to EA3 for atmospheric dispersion.
URBAN HEAT ISLANDS	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	EA3 and all CAs are not affected by urban heat islands. All 19 CAs are comparable to EA3 for atmospheric dispersion.
DISTANCE FROM CATEGORY 1 (KM)	E	G	E	G	G	L	L	L	G	G	G	G	G	E	G	L	L	G	G	EA3 is generally farther (15-20 km) from category 1 waters than 11 CAs (2, 4, 5, 9-13 inclusive, 15, 18, and 19). 5 CAs (6, 7, 8, 16, and 17) are generally farther from category 1 waters than EA3, and 3 CAs (1, 3, and 14) are an equivalent distance.
TRAVEL TIME (MINUTES) FROM CENTROID	G	G	G	L	E	L	L	L	L	L	L	L	L	L	G	L	L	L	L	Although EA3 is closer to the centroid (<15-30 min.) than CAs 4, 6-14 inclusive and 16-19 inclusive, 4 CAs (1-3 inclusive and 15) are closer to the centroid than EA3 (<15 min.); and 1 CA (5) is an equivalent distance from the centroid (<15-30 min.).
TRAVEL TIME (MINUTES) FROM 400-SERIES HIGHWAYS	E	L	E	E	L	L	L	L	L	L	L	L	E	E	L	L	L	L	E	Although EA3 is generally closer (<10 min.) to 400-series highways than CAs 2, 5-12 inclusive, and 15-18 inclusive, 6 of the CAs (1, 3, 4, 13, 14, and 19) are as close to 400-series highways (<10 min.); and no CA is more than 30 min. distant.
SOIL CAPABILITY CLI CLASSES	E	L	E	L	E	E	G	G	G	G	E	G	G	L	L	F	G	G	G	Although EA3 has a higher class of soil (predominantly Class 1) than 9 CAs (7-10 inclusive, 12, 13, and 17-19 inclusive), 4 CAs (2, 4, 14, and 15) have a higher class of soil (Class 1); and 6 CAs (1, 3, 5, 6, 11, and 16) have equally as good soil.

SPECIALTY AGRICULTURE	E E E E L L E L L L L E E E E L E L E	Although EA3 has a limited amount of specialty agriculture, there are 11 CAs (1-4 inclusive, 7, 12-15 inclusive, 17, and 19) which also have limited specialty agriculture.
% TOWNSHIP IN FARMING	E E E G E E G L L G E G G G E G L L G	EA3 has a larger % township in farming (60-80%) than 8 CAs (4, 7, 10, 12-14 inclusive, 16, and 19) and an approximately equivalent amount to 7 CAs (1-3 inclusive, 5, 6, 11, and 15).
CAPITAL VALUE PER ACRE ($)	L L L L E G G G G L G G G E L G G G G	EA3 has a higher capital value/acre ($3,000-$5,999) than 11 CAs (6-9 inclusive, 11-13 inclusive, and 16-19 inclusive) and an equivalent amount to 2 CAs (5 and 14).
ANNUAL SALES PER IMPROVED ACRE ($)	G G G G E G G G G L G G G G E G G G G	EA3 has higher annual sales/improved acre ($600-$900) than 16 CAs (1-4 inclusive, 6-9 inclusive, 11-14 inclusive, and 16-19 inclusive) and an equivalent amount to 2 CAs (5 and 15).
PROXIMITY TO URBAN BUILT-UP AREAS (KM)	E L L E E L L L L L L L E E L L L E L	EA3 is closer to an urban built-up area (<1 km Milton) than CAs 2, 3, 6-12 inclusive, 15-17 inclusive, and 19. CAs 1, 4, 5, 13, 14, and 18 are also <1 km from urban built-up areas. 7 CAs are a comparable distance from population centres, while 12 CAs are more remote offering a range of options for site selection.
RURAL POPULATION DENSITY (PERSONS/KM^2)	E E E G E G G L L G E E G G E G L L G	EA3 has a greater rural population density (20-40 persons/Km^2) than 8 CAs (4, 6, 7, 10, 13, 14, 16, and 19) and an approximately equivalent density to 7 CAs (1-3 inclusive, 5, 11, 12, and 15).
PUBLICLY OWNED LAND	E L E E L E E E E E E E E E E E E E	Two CAs (2 and 5) contain publicly owned land, and 1 CA (3) appears immediately adjacent to publicly owned land. EA3 has no publicly owned land similar to 17 CAs.
INDUSTRIALLY DESIGNATED LAND	E E E L E L L E E E E E L E E E E L E	EA3 has no industrially designated lands similar to 14 CAs. 5 CAs (4, 6, 7, 13, and 18) contain industrially designated lands, and 3 CAs (12, 14, and 19) appear adjacent to industrially designated lands.

SUMMARY: EA3 was primarily excluded for hydrogeologic reasons (<10 m soil depth and a sand or bedrock underlayer). EA3 has no preferred characteristics which are not possessed by a number of the CAs.

L = LESSER G = GREATER E = EQUIVALENT

EXCLUDED AREA 4 (EA4)

CHARACTERISTICS	CANDIDATE AREAS (CA) 1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	COMMENTS
DEPTH OF SILT/ CLAY SOILS (METRES)	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	EA4 has less soil depth (<10 m) than all CAs (predominantly 10-20 m for CAs 1, 2, and 4-13 inclusive and predominantly 20-30 m for CAs 3 and 14-19 inclusive). All CAs are preferable to EA4 hydrogeologically.
COMPLEXITY OF SOILS	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	EA4 has more complex soils, with a sand or bedrock underlayer, than CAs 1-3 inclusive, 5, 9-13 inclusive, 15, 18, and 19 which have uniform soils and CAs 4, 6, 7, 8, 14, 16, and 17 which have locally intermixed soils. All CAs are preferable to EA4 hydrogeologically.
LAKE BREEZES	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	EA4 and all CAs are not affected by lake breezes. All 19 CAs are comparable to EA4 for atmospheric dispersion.
TOPOGRAPHIC INFLUENCE	L	L	L	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	Although EA4 has no topographic influence, neither do CAs 4-19 inclusive. 16 CAs (4-19 inclusive) are comparable to EA4 for atmospheric dispersion.
URBAN HEAT ISLANDS	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	EA4 and all CAs are not affected by urban heat islands. All 19 CAs are comparable to EA4 for atmospheric dispersion.
DISTANCE FROM CATEGORY 1 (KM)	L	L	L	E	L	L	L	L	L	E	G	G	G	L	L	L	L	G	G	Although EA4 is generally closer (10-15 km) to category 1 waters than 12 CAs, 5 CAs (11, 12, 13, 18 and 19) are generally closer to category 1 waters than EA4; and 2 CAs (4 and 10) are an equivalent distance.
TRAVEL TIME (MINUTES) FROM CENTROID	G	G	G	L	G	L	L	L	L	L	L	L	L	L	G	L	L	L	L	Although EA4 is closer to the centroid (15-30 min.) than CAs 4, 6-14 inclusive, and 16-19 inclusive, 5 CAs (1-3 inclusive, 5, and 15) are closer to the centroid than EA1 (<15 min. for CAs 1-3 inclusive and 15, and <15-30 min. for CA 5).
TRAVEL TIME (MINUTES) FROM 400-SERIES HIGHWAYS	E	L	E	E	L	L	L	L	L	L	L	L	E	E	L	L	L	L	E	Although EA4 is generally closer (<10 min.) to 400-series highways than CAs 2, 5-12 inclusive, and 15-18 inclusive, 6 of the CAs (1, 3, 4, 13, 14, and 19) are as close to 400-series highways (<10 min.); and no CA is more than 30 min. distant.
SOIL CAPABILITY CLI CLASSES	L	L	L	L	L	L	L	G	L	G	L	G	G	L	L	L	G	G	G	EA4 has a lower class of soil (Class 1 and Class 4) as approximately half of its area is Class 4 than 12 CAs (1-7 inclusive, 9, 11, and 14-16 inclusive) which are predominantly Class 1. 12 CAs are preferable to EA4.

SPECIALTY AGRICULTURE	E E E E L L E L L L L E E E E L E L E	Although EA4 has a limited amount of specialty agriculture, there are 11 CAs (1-4 inclusive, 7, 12-15 inclusive, 17, and 19) which also have limited specialty agriculture.
% TOWNSHIP IN FARMING	E E E G E E G L L G E G G G E G L L G	EA4 has a larger % township in farming (60-80%) than 8 CAs (4, 7, 10, 12-14 inclusive, 16 and 19) and an approximately equivalent amount to 7 CAs (1-3 inclusive, 5, 6, 11, and 15).
CAPITAL VALUE PER ACRE ($)	L L L L E G G G G L G G G E L G G G G	EA4 has a higher capital value/acre ($3,000-$5,999) than 11 CAs (6-9 inclusive, 11-13 inclusive, and 16-19 inclusive) and an equivalent amount to 2 CAs (5 and 14).
ANNUAL SALES PER IMPROVED ACRE ($)	G G G G E G G G G L G G G G E G G G G	EA4 has higher annual sales/improved acre ($600-$900) than 16 CAs (1-4 inclusive, 6-9 inclusive, 11-14 inclusive, and 16-19 inclusive) and an equivalent amount to 2 CAs (5 and 15).
PROXIMITY TO URBAN BUILT-UP AREAS (KM)	G G G G G G G L G G G G G G G L L G G	EA4 is somewhat farther from an urban built-up area (<6 km) than 16 CAs (1-7 inclusive, 9-15 inclusive, 18, and 19). EA4 is closer to an urban built-up area than 3 CAs (8, 16, and 17).
RURAL POPULATION DENSITY (PERSONS/KM^2)	E E E G E G G L L G E E G G E G L L G	EA4 has a greater rural population density (20-40 persons/Km^2) than 8 CAs (4, 6, 7, 10, 13, 14, 16, and 19) and an approximately equivalent density to 7 CAs (1-3 inclusive, 5, 11, 12, and 15).
PUBLICLY OWNED LAND	G E G G E G G G G G G G G G G G G G G	Although EA4 has some publicly owned land within its boundaries, 2 CAs (2 and 5) contain publicly owned land; and 1 CA (3) appears to have publicly owned land immediately adjacent.
INDUSTRIALLY DESIGNATED LAND	E E E L E L L E E E E E L E E E E L E	EA4 has no industrially designated lands similar to 14 CAs. 5 CAs (4, 6, 7, 13, and 18) contain industrially designated lands, and 3 CAs (12, 14, and 19) appear adjacent to industrially designated lands.

SUMMARY: EA4 was primarily excluded for hydrogeologic reasons (<10 m soil depth and a sand or bedrock underlayer). Although EA4 has some publicly owned land, 2 CAs (2 and 5) contain publicly owned land as well. Also, EA4 has more specialty agriculture, more of its township in farming, a higher capital value/acre, and higher annual sales/improved acre than the majority of CAs. EA4 has no preferred characteristics which are not possessed by some of the CAs.

L = LESSER G = GREATER E = EQUIVALENT

EXCLUDED AREA 5 (EA5)

CHARACTERISTICS	CANDIDATE AREAS (CA) 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19	COMMENTS
DEPTH OF SILT/ CLAY SOILS (METRES)	L L L L L L L L L L L L L L L L L L L	EA5 has less soil depth (<10 m east portion and variable west portion) than all CAs (predominantly 10-20 m for CAs 1, 2, and 4-13 inclusive and predominantly 20-30 m for CAs 3 and 14-19 inclusive). All CAs are preferable to EA5 hydrogeologically.
COMPLEXITY OF SOILS	G G G G G G G G G G G G G G G G G G G	EA5 has more complex soils (a sand or bedrock underlayer east portion and sandy west portion) than CAs 1-3 inclusive, 5, 9-13 inclusive, 15, 18, and 19 which have uniform soils and CAs 4, 6, 7, 8, 14, 16, and 17 which have locally intermixed soils. All CAs are preferable to EA5 hydrogeologically.
LAKE BREEZES	E E E E E E E E E E E E E E E E E E E	EA5 and all CAs are not affected by lake breezes. All 19 CAs are comparable to EA5 for atmospheric dispersion.
TOPOGRAPHIC INFLUENCE	E E E G G G G G G G G G G G G G G G G	EA5 has a topographic influence similar to CAs 1-3 inclusive. 16 CAs (4-19 inclusive) have no topographic influence and are preferable to EA5 for atmospheric dispersion.
URBAN HEAT ISLANDS	E E E E E E E E E E E E E E E E E E E	EA5 and all CAs are not affected by urban heat islands. All 19 CAs are comparable to EA5 for atmospheric dispersion.
DISTANCE FROM CATEGORY 1 (KM)	L L L G E L L L E G G G G L E L L G G	Although EA5 is generally closer (10-20 km) to category 1 waters than 9 CAs, 7 CAs (4, 10-14 inclusive, 18, and 19) are closer to category 1 waters than EA5; and 3 CAs (5, 9, and 15) are an equivalent distance.
TRAVEL TIME (MINUTES) FROM CENTROID	E E E L L L L L L L L L L L E L L L L	Although EA5 is closer to the centroid (<15 min.) than the majority of CAs (4-13 inclusive and 16-19 inclusive), 4 CAs (1-3 inclusive and 15) are an equivalent distance from the centroid (<15 min.).
TRAVEL TIME (MINUTES) FROM 400-SERIES HIGHWAYS	G L G G G G L L G G L L G G G G L G G	EA5 is generally farther (10-20 min.) from 400-series highways than the majority of CAs (1, 3-6 inclusive, 9, 10, 13-16 inclusive, 18, and 19); and 6 CAs (2, 7, 8, 11, 12, and 17) are generally farther from 400-series highways. No CA is more than 30 min. distant.
SOIL CAPABILITY CLI CLASSES	E L E L E E G G G G E G G L L E G G G	Although EA5 has a higher class of soil (predominantly Class 1) than 9 CAs (7-10 inclusive, 12, 13, and 17-19 inclusive), 4 CAs (2, 4, 14, and 15) have a higher class of soil (Class 1); and 6 CAs (1, 3, 5, 6, 11, and 16) have equally as good soil.

SPECIALTY AGRICULTURE	E	E	E	E	L	L	E	L	L	L	L	E	E	E	E	L	E	L	E
% TOWNSHIP IN FARMING	E	E	E	G	L	L	G	L	L	G	L	G	G	G	L	L	L	L	G
CAPITAL VALUE PER ACRE ($)	E	E	E	L	G	G	G	G	G	L	G	G	G	L	G	G	G	G	G
ANNUAL SALES PER IMPROVED ACRE ($)	E	E	E	G	L	G	G	G	G	L	G	G	G	G	L	G	G	G	G
PROXIMITY TO URBAN BUILT-UP AREAS (KM)	G	G	G	G	G	G	G	L	G	G	G	G	G	G	G	L	L	G	G
RURAL POPULATION DENSITY (PERSONS/KM^2)	E	E	E	G	E	G	G	L	L	G	E	E	G	G	E	G	L	L	G
PUBLICLY OWNED LAND	G	E	G	G	E	G	G	G	G	G	G	G	G	G	G	G	G	G	G
INDUSTRIALLY DESIGNATED LAND	E	E	E	L	E	L	L	E	E	E	E	E	L	E	E	E	E	L	E

SPECIALTY AGRICULTURE	Although EA5 has a limited amount of specialty agriculture, there are 11 CAs (1-4 inclusive, 7, 12-15 inclusive, 17, and 19) which also have limited specialty agriculture.
% TOWNSHIP IN FARMING	EA5 is located in 2 municipalities with less farming activity (40-59% and 60-80%) than 9 CAs (5, 6, 8, 9, 11, and 15-18 inclusive). 7 CAs (4, 7, 10, 12-14 inclusive, and 19) have less township farming activity than EA5, and 3 CAs (1-3 inclusive) have an approximately equivalent amount.
CAPITAL VALUE PER ACRE ($)	EA5 has a higher capital value/acre ($6,000-$9,000 and $3,000-$5,999) than 13 CAs (5-9 inclusive, 11-13 inclusive, and 15-19 inclusive) and an equivalent amount to 3 CAs (1-3 inclusive).
ANNUAL SALES PER IMPROVED ACRE ($)	EA5 has higher annual sales/improved acre ($300-$599 and $600-$900) than 13 CAs (4, 6-9 inclusive, 11-14 inclusive, and 16-19 inclusive) and an equivalent amount to 3 CAs (1-3 inclusive).
PROXIMITY TO URBAN BUILT-UP AREAS (KM)	EA5 is somewhat farther from an urban built-up area (<6 km Milton) than 16 CAs (1-7 inclusive, 9-15 inclusive, 18, and 19). EA5 is closer to an urban built-up area than 3 CAs (8, 16, and 17).
RURAL POPULATION DENSITY (PERSONS/KM^2)	EA5 has a greater rural population density (20-40 persons/Km^2) than 8 CAs (4, 6, 7, 10, 13, 14, 16, and 19) and an approximately equivalent density to 7 CAs (1-3 inclusive, 5, 11, 12, and 15).
PUBLICLY OWNED LAND	Although EA5 has some publicly owned land within its boundaries, 2 CAs (2 and 5) contain publicly owned land; and 1 CA (3) appears to have publicly owned land immediately adjacent.
INDUSTRIALLY DESIGNATED LAND	EA5 has no industrially designated lands similar to 14 CAs. 5 CAs (4, 6, 7, 13, and 18) contain industrially designated lands, and 3 CAs (12, 14, and 19) appear adjacent to industrially designated lands.

SUMMARY: EA5 was primarily excluded for hydrogeologic reasons (<10 m and variable soil depths and a sand or bedrock underlayer and sandy soils). Although EA5 has some publicly owned land, 2 CAs (2 and 5) contain publicly owned land as well. Also, EA5 has a higher capital value/acre and higher annual sales/improved acre than a number of the CAs. EA5 has no preferred characteristics which are not possessed by some of the CAs.

L = LESSER G = GREATER E = EQUIVALENT

EXCLUDED AREA 6 (EA6)

CHARACTERISTICS	CANDIDATE AREAS (CA) 1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	COMMENTS
DEPTH OF SILT/ CLAY SOILS (METRES)	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	EA6 has generally less soil depth (variable) than all CAs (predominantly 10-20 m for CAs 1, 2, and 4-13 inclusive and predominantly 20-30 m for CAs 3 and 14-19 inclusive). All CAs are preferable to EA6 hydrogeologically.
COMPLEXITY OF SOILS	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	EA6 has more complex and sandy soils than CAs 1-3 inclusive, 5, 9-13 inclusive, 15, 18, and 19 which have uniform soils and CAs 4, 6, 7, 8, 14, 16, and 17 which have locally intermixed soils. All CAs are preferable to EA6 hydrogeologically.
LAKE BREEZES	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	EA6 and all CAs are not affected by lake breezes. All 19 CAs are comparable to EA6 for atmospheric dispersion.
TOPOGRAPHIC INFLUENCE	L	L	L	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	Although EA6 has no topographic influence, neither do CAs 4-19 inclusive. 16 CAs (4-19 inclusive) are comparable to EA6 for atmospheric dispersion.
URBAN HEAT ISLANDS	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	EA6 and all CAs are not affected by urban heat islands. All 19 CAs are comparable to EA6 for atmospheric dispersion.
DISTANCE FROM CATEGORY 1 (KM)	G	G	G	G	G	L	L	L	G	G	G	G	G	G	G	L	L	G	G	EA6 is generally farther (15-25 km) from category 1 waters than 14 CAs (1-5 inclusive, 9-15 inclusive, 18, and 19). 5 CAs (6, 7, 8, 16, and 17) are somewhat farther from category 1 waters than EA6.
TRAVEL TIME (MINUTES) FROM CENTROID	G	G	G	G	G	L	L	L	L	L	L	L	L	L	G	L	L	L	L	Although parts of EA6 are generally closer to the centroid (<30-60 min.) than 13 CAs (6-14 inclusive and 16-19 inclusive), 4 CAs (1-5 inclusive and 15) are closer to the centroid than EA6 (<15 min. for CAs 1-3 inclusive and 15, <15-30 min. for CA 5, and 15-45 min. for CA 4).
TRAVEL TIME (MINUTES) FROM 400-SERIES HIGHWAYS	G	L	G	G	E	E	L	L	E	E	L	L	G	G	E	E	L	L	G	Although EA6 is generally closer (<10-20 min.) to 400-series highways than 7 CAs (2, 7, 8, 11, 12, 17, and 18), 6 CAs (1, 3, 4, 13, 14,and 19) are closer to 400-series highways; and 6 CAs (5, 6, 10, 11, 15, and 16) are an approximately equivalent distance.
SOIL CAPABILITY CLI CLASSES	E	L	E	L	E	E	G	G	G	G	E	G	G	L	L	E	G	G	G	Although EA6 has a higher class of soil (predominantly Class 1) than 9 CAs (7-10 inclusive, 12, 13, and 17-19 inclusive), 4 CAs (2, 4, 14, and 15) have a higher class of soil (Class 1); and 6 CAs (1, 3, 5, 6, 11, and 16) have equally as good soil.

SPECIALTY AGRICULTURE	G G G G E G G G E G G G G G G G G E G	EA6 has more specialty agriculture (concentrated and scattered) than 16 CAs and an equivalent amount to 3 CAs. All CAs are preferable or equivalent to EA6.
% TOWNSHIP IN FARMING	G G G G G G G L L G G G G G G E L L G	EA6 has a larger % township in farming (60-80% and >80%) than 14 CAs (1-7 inclusive, 10-15 inclusive, and 19) and an approximately equivalent amount to 1 CA (16).
CAPITAL VALUE PER ACRE ($)	L L L L L L E G E L G G G L L E G E G	Although EA6 has a lower capital value/acre (<$3,000 and $3,000- $5,999) than 9 CAs (1-6 inclusive, 10, 14, and 15), 6 CAs (8, 11, 12, 13, 17, and 19) have lower capital values/acre; and 4 CAs (7,9, 16, and 18) have an approximately equivalent amount.
ANNUAL SALES PER IMPROVED ACRE ($)	L L L L L L E E L L L G G L L G G L G	Although EA6 has lower annual sales/improved acre ($300-$599 and <$300) than 12 CAs (1-6 inclusive, 9-11 inclusive, 14, 15, and 18), 5 CAs (12, 13, 16, 17, and 19) have lower annual sales/improved acre; and 2 CAs (7 and 8) have an equivalent amount.
PROXIMITY TO URBAN BUILT-UP AREAS (KM)	G E G G G L E L G G E G G G G L L G E	EA6 is located closer to an urban built-up area (<4 km Hamilton) than 4 CAs (6, 8, 16, and 17). 11 CAs (1, 3, 4, 5, 9, 10, 12-15 inclusive, and 18) are somewhat closer to urban built-up areas, and 4 CAs (2, 7, 11, and 19) are an approximately equivalent distance.
RURAL POPULATION DENSITY (PERSONS/KM^2)	G G G G G E G E E G G G G G G G E E G	EA6 has a greater rural population density (20-40 and >40 persons/km^2) than 14 CAs (1-5 inclusive, 7, 10-16 inclusive, and 19) and an approximately equivalent amount to 5 CAs (6, 8, 9, 17, and 18).
PUBLICLY OWNED LAND	G E G G E G G G G G G G G G G G G G G	Although EA6 has some publicly owned land within its boundaries, 2 CAs (2 and 5) contain publicly owned land; and 1 CA (3) appears to have publicly owned land immediately adjacent.
INDUSTRIALLY DESIGNATED LAND	G G G E G E E G G G G E G G G G E G	Although EA6 contains some industrially designated land, 5 CAs (4, 6, 7, 13, and 18) contain industrially designated lands; and 3 CAs (12, 14, and 19) appear adjacent to industrially designated lands.

SUMMARY: EA6 was primarily excluded for hydrogeologic reasons (variable soil depth and sandy soils). Although EA6 has some publicly owned land, 2 CAs (2 and 5) contain publicly owned land as well. Although EA6 has some industrially designated lands, 5 CAs (4, 6, 7, 13, and 18) also contain industrially designated lands. Also, EA6 has more specialty agriculture, a larger % township in farming, and a greater rural population density than most CAs. EA6 has no preferred characteristics which are not possessed by some CAs.

L = LESSER G = GREATER E = EQUIVALENT

EXCLUDED AREA 7 (EA7)

CHARACTERISTICS	CANDIDATE AREAS (CAs) 1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	COMMENTS
DEPTH OF SILT/ CLAY SOILS (METRES)	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	EA7 has generally less soil depth (variable) than all CAs (predominantly 10-20 m for CAs 1, 2, and 4-13 inclusive and predominantly 20-30 m for CAs 3 and 14-19 inclusive). All CAs are preferable to EA7 hydrogeologically.
COMPLEXITY OF SOILS	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	EA7 has more complex soils (sandy) than CAs 1-3 inclusive, 5, 9-13 inclusive, 15, 18, and 19 which have uniform soils and CAs 4, 6-8 inclusive, 14, 16, and 17 which have locally intermixed soils. All CAs are preferable to EA7 hydrogeologically.
LAKE BREEZES	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	EA7 and all CAs are not affected by lake breezes. All 19 CAs are comparable to EA7 for atmospheric dispersion.
TOPOGRAPHIC INFLUENCE	L	L	L	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	Although EA7 has no topographic influence, neither do CAs 4-19 inclusive. 16 CAs (4-19 inclusive) are comparable to EA7 for atmospheric dispersion.
URBAN HEAT ISLANDS	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	EA7 and all CAs are not affected by urban heat islands. All 19 CAs are comparable to EA7 for atmospheric dispersion.
DISTANCE FROM CATEGORY 1 (KM)	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	EA7 is generally farther (25-35 km) from category 1 waters than all 19 CAs.
TRAVEL TIME (MINUTES) FROM CENTROID	G	G	G	G	G	G	L	E	E	E	L	L	L	L	G	E	L	E	L	EA7 is closer to the centroid (30-60 min.) than 7 CAs (7, 11, 12, 13, 14, 17, and 19). 7 CAs are closer to the centroid than EA7, and 5 CAs are an approximately equivalent distance.
TRAVEL TIME (MINUTES) FROM 400-SERIES HIGHWAYS	E	L	E	E	L	L	L	L	L	L	L	L	E	E	L	L	L	L	E	Although EA7 is generally closer (<10 min.) to 400-series highways than 13 CAs (2, 5-12 inclusive, and 15-18 inclusive), 6 CAs (1, 3, 4, 13, 14, and 19) are as close to 400-series highways (<10 min.); and no CA is more than 30 min. distant.
SOIL CAPABILITY CLI CLASSES	E	L	E	L	E	E	G	G	G	G	E	G	G	L	L	E	G	G	G	Although EA7 has a higher class of soil (predominantly Class 1) than 9 CAs (7-10 inclusive, 12, 13, and 17-19 inclusive), 4 CAs (2, 4, 14, and 15) have a higher class of soil (Class 1); and 6 CAs (1, 3, 5, 6, 11, and 16) have equally as good soil.

SPECIALTY AGRICULTURE	E E E E L L E L L L L E E E E L E L E	Although EA7 has limited specialty agriculture, 11 CAs (1-4 inclusive, 7, 12-15 inclusive, 17, and 19) also have limited specialty agriculture.
% TOWNSHIP IN FARMING	G G G G G G G L L G G G G G G E L L G	EA7 has a larger % township in farming (60-80% for Ancaster and Brantford, >80% for Onondaga, and <40% for the Indian Reserves) than 14 CAs (1-7 inclusive, 10-15 inclusive, and 19) and an equivalent amount to 1 CA (16).
CAPITAL VALUE PER ACRE ($)	L L L L L E G G G L G G G L L G G G G	EA7 has a higher capital value/acre ($3,000-$5,999 for Ancaster and Brantford and $<3,000 for Onondaga and Indian Reserves) than 10 CAs (7, 8, 9, 11, 12, 13, and 16-19 inclusive) and an approximately equivalent amount to 1 CA (6).
ANNUAL SALES PER IMPROVED ACRE ($)	L L L L L L G E L L L G G L L G G L G	EA7 has higher annual sales/improved acre (predominantly $300-$599 and $<300 for Indian Reserves) than 6 CAs (7, 12, 13, 16, 17, and 19) and an approximately equivalent amount to 1 CA (8).
PROXIMITY TO URBAN BUILT-UP AREAS (KM)	G G G G G G G L G G G G G G G L L G G	EA7 is located somewhat farther from an urban built-up area (<6 km Brantford) than 16 CAs (1-7 inclusive, 9-15 inclusive, 18, and 19). EA7 is closer to an urban built-up area than 3 CAs (8, 16, and 17).
RURAL POPULATION DENSITY (PERSONS/KM^2)	L L L G L L E L L G L L G G L G L L G	EA7 has a greater rural population density (20-40 persons/km^2 for Ancaster and Indian Reserves and 0-19 for Onondaga) than 6 CAs (4, 10, 13, 14, 16, and 19) and an approximately equivalent amount to 1 CA (7).
PUBLICLY OWNED LAND	E L E E L E E E E E E E E E E E E E	EA7 has no publicly owned land similar to 17 CAs. 2 CAs (2 and 5) contain publicly owned land, and 1 CA (3) appears immediately adjacent to publicly owned land.
INDUSTRIALLY DESIGNATED LAND	E E E L E L L E E E E E L E E E E L E	EA7 appears to have industrially designated lands immediately adjacent similar to 3 CAs (12, 14, and 19). 5 CAs (4, 6, 7, 13, and 18) contain industrially designated lands.

SUMMARY: EA7 was primarily excluded for hydrogeologic reasons (variable soil depth and sandy soils). EA7 has no preferred characteristics which are not possessed by a number of the CAs.

L = LESSER G = GREATER E = EQUIVALENT

EXCLUDED AREA 8 (EA8)

CHARACTERISTICS	CANDIDATE AREAS (CA) 1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	COMMENTS
DEPTH OF SILT/ CLAY SOILS (METRES)	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	EA8 has generally less soil depth (variable and portion <10 m) than all CAs (predominantly 10-20 m for CAs 1, 2, and 4-13 inclusive and predominantly 20-30 m for CAs 3 and 14-19 inclusive). All CAs are preferable to EA8 hydrogeologically.
COMPLEXITY OF SOILS	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	EA8 has more complex soils, predominantly sandy soils with a portion having a sand or bedrock underlayer, than CAs 1-3 inclusive, 5, 9-13 inclusive, 15, 18, and 19 which have uniform soils and CAs 4, 6, 7, 8, 14, 16, and 17 which have locally interwixed soils. All CAs are preferable to EA8 hydrogeologically.
LAKE BREEZES	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	EA8 is affected by lake breezes (2 and 5 km). All 19 CAs are preferable to EA8 for atmospheric dispersion.
TOPOGRAPHIC INFLUENCE	L	L	L	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	Although EA8 has no topographic influence, neither do CAs 4-19 inclusive. 16 CAs (4-19 inclusive) are comparable to EA8 for atmospheric dispersion.
URBAN HEAT ISLANDS	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	EA8 and all CAs are not affected by urban heat islands. All 19 CAs are comparable to EA8 for atmospheric dispersion.
DISTANCE FROM CATEGORY 1 (KM)	G	G	G	G	G	G	L	G	G	G	G	G	G	G	G	L	G	G	G	EA8 is generally farther (5-35 km) from category 1 waters than 17 CAs (1-6 inclusive, 8-15 inclusive, 17, 18, and 19) even though the southern tip of EA8 is 5 km from category 1. 2 CAs (7 and 16) are generally farther from category 1 waters than EA8.
TRAVEL TIME (MINUTES) FROM CENTROID	G	G	G	G	G	G	G	G	G	G	L	L	G	G	G	G	G	G	G	EA8 is generally farther from the centroid (60-90 min.) than 17 CAs (1-10 inclusive and 13-19 inclusive).
TRAVEL TIME (MINUTES) FROM 400-SERIES HIGHWAYS	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	EA8 is generally farther from 400-series highways (<20-50 min.) than all 19 CAs. No CA is farther than 30 min. distant from 400-series highways.
SOIL CAPABILITY CLI CLASSES	L	L	L	L	L	L	L	E	L	E	L	G	G	L	L	L	E	L	G	EA8 has a lower class of soil (predominantly Class 2 with areas of Class 1, Class 4, and Other Classes) than 12 CAs (1-7 inclusive, 9, 11, and 14-16 inclusive) and approximately equivalent classes of soil to 4 CAs (8, 10, 17, and 18).

SPECIALTY AGRICULTURE	G G G G E G G G E G G G G G G G G E G	EA8 has more specialty agriculture (concentrated and scattered) than 16 CAs and an equivalent amount to 3 CAs. All CAs are preferable or equivalent to EA8.
% TOWNSHIP IN FARMING	G G G G G G G G G G G G G G G G G G G	EA8 has a larger % township in farming (>80%) than all 19 CAs.
CAPITAL VALUE PER ACRE ($)	L L L L L L L L L L E E L L L L E L E	Although EA8 has a lower capital value/acre (<$3,000) than 14 CAs (1-7 inclusive, 9, 10, 13-16 inclusive, and 18), 5 CAs (8, 11, 12, 17, and 19) have an equivalent capital value/acre.
ANNUAL SALES PER IMPROVED ACRE ($)	L L L E L E G G L L E G G E L G G L G	Although EA8 has lower annual sales/improved acre ($300-$599) than 8 CAs (1-3 inclusive, 5, 9, 10, 15, and 16), 7 CAs (7, 8, 12, 13, 16, 17, and 19) have lower annual sales/improved acre; and 4 CAs (4, 6 11, and 14) have an approximately equivalent amount.
PROXIMITY TO URBAN BUILT-UP AREAS (KM)	G G G G G G G E G G G G G G G G E G G	EA8 is somewhat farther from an urban built-up area (<14 km Brantford) than 17 CAs (1-7 inclusive, 9-16 inclusive, and 17) and an approximately equivalent distance to 2 CAs (8 and 17). Distances from urban built-up areas range from <1 km to <14 km for CAs offering a range of choice for site selection.
RURAL POPULATION DENSITY (PERSONS/KM^2)	E E E G E G G L L G E E G G E G L L G	EA8 has a greater rural population density (20-40 persons/km^2) than 8 CAs (4, 6, 7, 10, 13, 14, 16, and 19) and an equivalent density to 7 CAs (1-3 inclusive, 5, 11, 12, and 15).
PUBLICLY OWNED LAND	G E G G E G G G G G G G G G G G G G G	Although EA8 has some publicly owned land within its boundaries, 2 CAs (2 and 5) contain publicly owned land; and 1 CA (3) appears to have publicly owned land immediately adjacent.
INDUSTRIALLY DESIGNATED LAND	G G G E G E E G G G G G E G G G G E G	Although EA8 contains some industrially designated land, 5 CAs (4, 6, 7, 13, and 18) contain industrially designated lands; and 3 CAs (12, 14, and 19) appear adjacent to industrially designated lands.

SUMMARY: EA8 was primarily excluded for hydrogeologic reasons (predominantly variable soil depth with a portion <10 m and predominantly sandy soil and a portion with a sand or bedrock underlayer). EA8 offers poor atmospheric dispersion for its southern portion because it is affected by lake breezes. EA8 is also generally farther from 400-series highways than all CAs. Although EA8 has some publicly owned land, 2 CAs (2 and 5) contain publicly owned land as well. Although EA8 contains industrially designated lands, 5 CAs also contain industrially designated lands. EA8 has more specialty agriculture and a larger % township farming than most CAs. EA8 has a lower class of soil than a majority of CAs. EA8 has no preferred characteristic which is not possessed by some CAs.

L = LESSER G = GREATER E = EQUIVALENT

EXCLUDED AREA 9 (EA9)

CHARACTERISTICS	CANDIDATE AREAS (CAs) 1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	COMMENTS
DEPTH OF SILT/ CLAY SOILS (METRES)	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	EA9 has less soil depth (<10 m) than all CAs (predominantly 10-20 m for CAs 1, 2, and 4-13 inclusive and predominantly 20-30 m for CAs 3 and 14-19 inclusive). All CAs are preferable to EA9 hydrogeologically.
COMPLEXITY OF SOILS	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	EA9 has more complex soils with a sand or bedrock underlayer than CAs 1-3 inclusive, 5, 9-13 inclusive, 15, 18, and 19 which have uniform soils and CAs 4, 6-8 inclusive, 14, 16, and 17 which have locally intermixed soils. All CAs are preferable to EA9 hydrogeologically.
LAKE BREEZES	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	EA9 and all CAs are not affected by lake breezes. All 19 CAs are comparable to EA9 for atmospheric dispersion.
TOPOGRAPHIC INFLUENCE	L	L	L	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	Although EA9 has no topographic influence, neither do CAs 4-19 inclusive. 16 CAs (4-19 inclusive) are comparable to EA9 for atmospheric dispersion.
URBAN HEAT ISLANDS	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	EA9 and all CAs are not affected by urban heat islands. All 19 CAs are comparable to EA9 for atmospheric dispersion.
DISTANCE FROM CATEGORY 1 (KM)	G	G	G	G	G	G	L	G	G	G	G	G	G	G	G	L	G	G	G	EA9 is generally farther (20-35 km) from category 1 waters than 17 CAs (1-6 inclusive, 8-15 inclusive, 17, 18, and 19). 2 CAs (7 and 16) are somewhat farther from category 1 waters than EA9.
TRAVEL TIME (MINUTES) FROM CENTROID	G	G	G	G	G	G	E	G	G	G	L	L	L	G	G	G	G	G	L	EA9 is generally farther from the centroid (45-75 min.) than 14 CAs (1-6 inclusive, 8-10 inclusive, and 14-18 inclusive) and an equivalent distance from the centroid as 1 CA (7).
TRAVEL TIME (MINUTES) FROM 400-SERIES HIGHWAYS	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	EA9 is generally farther from 400-series highways (<20-40 min.) than all 19 CAs.
SOIL CAPABILITY CLI CLASSES	L	L	L	L	L	L	E	G	E	G	G	G	G	L	L	L	G	G	G	EA9 has a lower class of soil (Class 1 and Class 2 with an area of Other Classes) than 9 CAs (1-6 inclusive and 14-17 inclusive) and an approximately equivalent class of soil to 2 CAs (7 and 9).

SPECIALTY AGRICULTURE	E E E E L L E L L L L E E E E L E L E	Although EA9 has limited specialty agriculture, 11 CAs (1-4 inclusive, 7, 12-15 inclusive, 17, and 19) also have limited specialty agriculture.
% TOWNSHIP IN FARMING	G G G G G G G L L G G G G G G G L L G	EA9 has a larger % township in farming (predominantly >80% with <40% in Indian Reserves) than 15 CAs (1-7 inclusive, 10-16 inclusive, and 19).
CAPITAL VALUE PER ACRE ($)	L L L L L L L E L L E E L L L L E L E	Although EA9 has a lower capital value/acre (<$3,000) than 14 CAs (1-7 inclusive, 9, 10, 13-16 inclusive, and 18), 5 CAs (8, 11, 12, 17, and 19) have the same capital value/acre (<$3,000).
ANNUAL SALES PER IMPROVED ACRE ($)	L L L L L L L L L L L E E L L E E L E	Although EA9 has lower annual sales/improved acre (predominantly <$300 and some $300-$599) than 14 CAs (1-11 inclusive, 14, 15, and 18), 5 CAs (12, 13, 16, 17, and 19) have an equivalent amount.
PROXIMITY TO URBAN BUILT-UP AREAS (KM)	G G G G G G G G G G G G G G G G G G G	EA9 is located farther from an urban built-up area (<20 km Brantford) than all 19 CAs. The CAs' distance from urban built-up areas ranges from <1 km to <14 km which offers a variety of choice for site selection.
RURAL POPULATION DENSITY (PERSONS/KM^2)	E E E G E G G L L G E E G G E G L L G	EA9 has a greater rural population density (20-40 persons/km^2) than 8 CAs (4, 6, 7, 10, 13, 14, 16, and 19) and an approximately equivalent density to 7 CAs (1-3 inclusive, 5, 11, 12, and 15).
PUBLICLY OWNED LAND	E L E E L E E E E E E E E E E E E E E	Two CAs (2 and 5) contain publicly owned land, and 1 CA (3) appears to have publicly owned land immediately adjacent. EA9 has no publicly owned land similar to 17 CAs.
INDUSTRIALLY DESIGNATED LAND	E E E L E L L E E E E E L E E E E L E	EA9 has no industrially designated lands similar to 14 CAs. 5 CAs (4, 6, 7, 13, and 18) contain industrially designated lands, and 3 CAs (12, 14, and 19) appear adjacent to industrially designated lands.

SUMMARY: EA9 was primarily excluded for hydrogeologic reasons (<10 m soil depth and a sand or bedrock underlayer). EA9 has no preferred characteristics that are not possessed by a number of CAs.

L = LESSER G = GREATER E = EQUIVALENT

EXCLUDED AREA 10 (EA10)

CHARACTERISTICS	CANDIDATE AREAS (CAs) 1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	COMMENTS
DEPTH OF SILT/ CLAY SOILS (METRES)	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	EA10 has less soil depth (<10 m) than all CAs (predominantly 10-20 m for CAs 1, 2, and 4-13 inclusive and predominantly 20-30 m for CAs 3 and 14-19 inclusive). All CAs are preferable to EA10 hydrogeologically.
COMPLEXITY OF SOILS	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	EA10 has more complex soils with a sand or bedrock underlayer than CAs 1-3 inclusive, 5, 9-13 inclusive, 15, 18, and 19 which have uniform soils and CAs 4, 6-8 inclusive, 14, 16, and 17 which have locally intermixed soils. All CAs are preferable to EA10 hydrogeologically.
LAKE BREEZES	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	EA10 and all CAs are not affected by lake breezes. All 19 CAs are comparable to EA10 for atmospheric dispersion.
TOPOGRAPHIC INFLUENCE	L	L	L	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	Although EA10 has no topographic influence, neither do CAs 4-19 inclusive. 16 CAs (4-19 inclusive) are comparable to EA10 for atmospheric dispersion.
URBAN HEAT ISLANDS	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	EA10 and all CAs are not affected by urban heat islands. All 19 CAs are comparable to EA10 for atmospheric dispersion.
DISTANCE FROM CATEGORY 1 (KM)	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	EA10 is generally farther (25-35 km) from category 1 waters than all 19 CAs.
TRAVEL TIME (MINUTES) FROM CENTROID	G	G	G	G	G	G	L	G	G	G	L	L	L	G	G	G	E	G	L	EA10 is generally farther from the centroid (<45-60 min.) than 13 CAs (1-6 inclusive, 8-10 inclusive 14-16 inclusive, and 18) and an equivalent distance to 1 CA (17).
TRAVEL TIME (MINUTES) FROM 400-SERIES HIGHWAYS	G	L	G	G	G	G	E	E	G	G	E	L	G	G	G	G	E	G	G	EA10 is generally farther from 400-series highways (10-30 min.) than 13 CAs (1, 3-6 inclusive, 9, 10, 13-16 inclusive, 18, and 19) and an equivalent distance to 4 CAs (7, 8, 11, and 17).
SOIL CAPABILITY CLI CLASSES	E	L	E	L	E	E	G	G	G	G	E	G	G	L	L	E	G	G	G	EA10 has a lower class of soil (predominantly Class 1 with areas of Class 2) than 4 CAs (2, 4, 14, and 15) and an approximately equivalent class to 6 CAs (1, 3, 5, 6, 11, and 16).

SPECIALTY AGRICULTURE	E E E E L L E L L L L E E E E L E L E	Although EA10 has limited specialty agriculture, 11 CAs (1-4 inclusive, 7, 12-15 inclusive, 17, and 19) also have limited specialty agriculture.
% TOWNSHIP IN FARMING	G G G G G G G L L G G G G G G G L L G	EA10 has a larger % township in farming (predominantly >80% with some <40%) than 15 CAs (1-7 inclusive, 10-16 inclusive, and 19).
CAPITAL VALUE PER ACRE ($)	L L L L L L L E L L E E L L L L E L E	Although EA10 has a lower capital value/acre (<$3,000) than 14 CAs (1-7 inclusive, 9, 10, 13-16 inclusive, and 18), 5 CAs (8, 11, 12, 17, and 19) have the same capital value/acre (<$3,000).
ANNUAL SALES PER IMPROVED ACRE ($)	L L L L L L L L L L L E E L L E E L E	Although EA10 has lower annual sales/improved acre (predominantly <$300 and some $300-$599) than 14 CAs, 5 CAs (12, 13, 16, 17, and 19) have an equivalent amount.
PROXIMITY TO URBAN BUILT-UP AREAS (KM)	G G G G G G G G G G G G G G G G G G G	EA10 is located farther from an urban built-up area (<20 km Brantford) than all 19 CAs. The CAs' distance from urban built-up areas ranges from <1 km to <14 km which offers a variety of choice for site selection.
RURAL POPULATION DENSITY (PERSONS/KM^2)	L L L G L L E L L G L L G G L G L L G	EA10 has a lower rural population density (20-40 persons/km^2 for Haldimand and Reserves and 0-19 for Onondaga) than 6 CAs (4, 10, 13, 14, 16, and 19) and an approximately equivalent amount to 1 CA (7).
PUBLICLY OWNED LAND	E L E E L E E E E E E E E E E E E E E	Two CAs (2 and 5) contain publicly owned land, and 1 CA (3) appears to have publicly owned land immediately adjacent. EA10 has no publicly owned land similar to 17 CAs.
INDUSTRIALLY DESIGNATED LAND	E E E L E L L E E E E E L E E E E L E	EA10 appears to have adjacent industrially designated lands similar to 3 CAs (12, 14, and 19). 5 CAs (4, 6, 7, 13, and 18) contain industrially designated lands.

SUMMARY: EA10 was primarily excluded for hydrogeologic reasons (<10 m soil depth and a sand or bedrock underlayer). EA10 has no preferred characteristics which are not possessed by a number of CAs.

L = LESSER G = GREATER E = EQUIVALENT

EXCLUDED AREA 11 (EA11)

CHARACTERISTICS	CANDIDATE AREAS (CAs) 1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	COMMENTS
DEPTH OF SILT/ CLAY SOILS (METRES)	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	EA11 has less soil depth (<10 m) than all CAs (predominantly 10-20 m for CAs 1, 2, and 4-13 inclusive and predominantly 20-30 m for CAs 3 and 14-19 inclusive). All CAs are preferable to EA11 hydrogeologically.
COMPLEXITY OF SOILS	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	EA11 has more complex soils with a sand or bedrock underlayer than CAs 1-3 inclusive, 5, 9-13 inclusive, 15, 18, and 19 which have uniform soils and CAs 4, 6, 7, 8, 14, 16, and 17 which have locally intermixed soils. All CAs are preferable to EA11 hydrogeologically.
LAKE BREEZES	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	EA11 and all CAs are not affected by lake breezes. All 19 CAs are comparable to EA11 for atmospheric dispersion.
TOPOGRAPHIC INFLUENCE	L	L	L	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	Although EA11 has no topographic influence, neither do CAs 4-19 inclusive. 16 CAs (4-19 inclusive) are comparable to EA11 for atmospheric dispersion.
URBAN HEAT ISLANDS	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	EA11 and all CAs are not affected by urban heat islands. All 19 CAs are comparable to EA11 for atmospheric dispersion.
DISTANCE FROM CATEGORY 1 (KM)	G	G	G	G	G	E	L	G	G	G	G	G	G	G	G	L	L	G	G	EA11 is generally farther (20-25 km) from category 1 waters than 15 CAs (1-5 inclusive, 8-15 inclusive, 18, and 19) and an equivalent distance from category 1 waters to 1 CA (6). 3 CAs (7, 16, and 17) are somewhat farther from category 1 waters than EA11.
TRAVEL TIME (MINUTES) FROM CENTROID	G	G	G	G	G	G	G	G	G	G	L	L	L	G	G	G	G	G	L	EA11 is generally farther from the centroid (60 min.) than 15 CAs (1-10 inclusive and 14-18 inclusive).
TRAVEL TIME (MINUTES) FROM 400-SERIES HIGHWAYS	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	EA11 is generally farther from 400-series highways (20-30 min.) than all 19 CAs.
SOIL CAPABILITY CLI CLASSES	G	E	G	E	G	G	G	G	G	G	G	G	G	E	E	G	G	G	G	Although EA11 has a higher class of soil (Class 1) than 15 CAs, 4 CAs (2, 4, 14, and 15) have all Class 1 soils; and 6 CAs (1, 3, 5, 6, 11, and 16) have predominantly Class 1 soils.

SPECIALTY AGRICULTURE	E E E E L L E L L L L E E E E L E L E	Although EA11 has limited specialty agriculture, 11 CAs (1-4 inclusive, 7, 12-15 inclusive, 17, and 19) also have limited specialty agriculture.
% TOWNSHIP IN FARMING	G G G G G G G G G G G G G G G G G G	EA11 has a larger % township in farming (>80%) than all 19 CAs.
CAPITAL VALUE PER ACRE ($)	L L L L L L L L L L E E L L L L E L E	Although EA11 has a lower capital value/acre (<$3,000) than 14 CAs (1-7 inclusive, 9, 10, 13-16 inclusive, and 18), 5 CAs (8, 11, 12, 17, and 19) have an equivalent capital value/acre.
ANNUAL SALES PER IMPROVED ACRE ($)	L L L L L L L L L L L L L L L L L L L	Although EA11 has lower annual sales/improved acre (<$300) than all CAs, 6 CAs (7, 12, 13, 16, 17, and 19) have predominantly <$300 annual sales/improved acre.
PROXIMITY TO URBAN BUILT-UP AREAS (KM)	G G G G G G G G G G G G G G G G G G	EA11 is farther from urban built-up areas (<30 km Brantford and <30 km Hamilton) than all CAs. The CAs range in distance from <1 to <14 km from urban built-up areas offering a range of choice for site selection.
RURAL POPULATION DENSITY (PERSONS/KM^2)	E E E G E G G L L G E E G G E G L L G	EA11 has a greater rural population density (20-40 persons/km^2) than 8 CAs (4, 6, 7, 10, 13, 14, 16, and 19) and an approximately equivalent density to 7 CAs (1-3 inclusive, 5, 11, 12, and 15).
PUBLICLY OWNED LAND	E L E E L E E E E E E E E E E E E E	Two CAs (2 and 5) contain publicly owned land, and 1 CA (3) appears to have publicly owned land immediately adjacent. EA11 has no publicly owned land similar to 17 CAs.
INDUSTRIALLY DESIGNATED LAND	E E E L E L L E E E E E L E E E E L E	EA11 has no industrially designated lands similar to 14 CAs. 5 CAs (4, 6, 7, 13, and 18) contain industrially designated lands, and 3 CAs (12, 14, and 19) appear adjacent to industrially designated lands.

SUMMARY: EA11 was primarily excluded for hydrogeologic reasons (<10 m soil depth and a sand or bedrock underlayer). EA11 has no preferred characteristics that are not possessed by some CAs.

L = LESSER G = GREATER E = EQUIVALENT

EXCLUDED AREA 12 (EA12)

CHARACTERISTICS	CANDIDATE AREAS (CAs) 1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	COMMENTS
DEPTH OF SILT/ CLAY SOILS (METRES)	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	EA12 has less soil depth (<10 m) than all CAs (predominantly 10-20 m for CAs 1, 2, and 4-13 inclusive and predominantly 20-30 m for CAs 3 and 14-19 inclusive). All CAs are preferable to EA12 hydrogeologically.
COMPLEXITY OF SOILS	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	EA12 has more complex soils with a sand or bedrock underlayer than CAs 1-3 inclusive, 5, 9-13 inclusive, 15, 18, and 19 which have uniform soils and CAs 4, 6, 7, 8, 14, 16, and 17 which have locally intermixed soils. All CAs are preferable to EA12 hydrogeologically.
LAKE BREEZES	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	EA12 and all CAs are not affected by lake breezes. All 19 CAs are comparable to EA12 for atmospheric dispersion.
TOPOGRAPHIC INFLUENCE	L	L	L	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	Although EA12 has no topographic influence, neither do CAs 4-19 inclusive. 16 CAs (4-19 inclusive) are comparable to EA12 for atmospheric dispersion.
URBAN HEAT ISLANDS	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	EA12 and all CAs are not affected by urban heat islands. All 19 CAs are comparable to EA12 for atmospheric dispersion.
DISTANCE FROM CATEGORY 1 (KM)	G	G	G	G	G	G	L	G	G	G	G	G	G	G	G	L	G	G	G	EA12 is generally farther (25-30 km) from category 1 waters than 17 CAs (1-6 inclusive, 8-15 inclusive, 17, 18, and 19). 2 CAs (7 and 16) are somewhat farther from category 1 waters than EA12.
TRAVEL TIME (MINUTES) FROM CENTROID	G	G	G	G	G	G	L	G	G	G	L	L	L	G	G	G	E	G	L	EA12 is generally farther from the centroid (45-60 min.) than 13 CAs (1-6 inclusive, 8-10 inclusive, 14-16 inclusive, and 18) and an equivalent distance to 1 CA (17).
TRAVEL TIME (MINUTES) FROM 400-SERIES HIGHWAYS	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	EA12 is generally farther from 400-series highways (20-30 min.) than all 19 CAs.
SOIL CAPABILITY CLI CLASSES	G	E	G	E	G	G	G	G	G	G	G	G	G	E	E	G	G	G	G	Although EA12 has a higher class of soil (Class 1) than 15 CAs, 4 CAs (2, 4, 14, and 15) have all Class 1 soils; and 6 CAs (1, 3, 5, 6, 11, and 16) have predominantly Class 1 soils.

SPECIALTY AGRICULTURE	E E E E L L E L L L L E E E E L E L E	Although EA12 has limited specialty agriculture, 11 CAs (1-4 inclusive, 7, 12-15 inclusive, 17, and 19) also have limited specialty agriculture.
% TOWNSHIP IN FARMING	G G G G G G G G G G G G G G G G G G	EA12 has a larger % township in farming (>80%) than all 19 CAs.
CAPITAL VALUE PER ACRE ($)	L L L L L L L E L L E E L L L L E L E	Although EA12 has a lower capital value/acre (<$3,000) than 14 CAs (1-7 inclusive, 9, 10, 13-16 inclusive, and 18), 5 CAs (8, 11, 12, 17, and 19) have an equivalent capital value/acre.
ANNUAL SALES PER IMPROVED ACRE ($)	L L L L L L L L L L L L L L L L L L L	Although EA12 has lower annual sales/improved acre (<$300) than all CAs, 6 CAs (7, 12, 13, 16, 17, and 19) have predominantly <$300 annual sales/improved acre.
PROXIMITY TO URBAN BUILT-UP AREAS (KM)	G G G G G G G G G G G G G G G G G G G	EA12 is farther from urban built-up areas (<25 km Hamilton) than all CAs. The CAs range in distance from <1 to <14 km from urban built-up areas offering a range of choice for site selection.
RURAL POPULATION DENSITY (PERSONS/KM^2)	E E E G E G G L L G E E G G E G L L G	EA12 has a greater rural population density (20-40 persons/km^2) than 8 CAs (4, 6, 7, 10, 13, 14, 16, and 19) and an approximately equivalent density to 7 CAs (1-3 inclusive, 5, 11, 12, and 15).
PUBLICLY OWNED LAND	E L E E L E E E E E E E E E E E E E E	Two CAs (2 and 5) contain publicly owned land, and 1 CA (3) appears to have publicly owned land immediately adjacent. EA12 has no publicly owned land similar to 17 CAs.
INDUSTRIALLY DESIGNATED LAND	E E E L E L L E E E E E L E E E E L E	EA12 has no industrially designated lands similar to 14 CAs. 5 CAs (4, 6, 7, 13, and 18) contain industrially designated lands, and 3 CAs (12, 14, and 19) appear adjacent to industrially designated lands.

SUMMARY: EA12 was primarily excluded for hydrogeologic reasons (<10 m soil depth and a sand or bedrock underlayer). EA12 has no preferred characteristics that are not possessed by some CAs.

L = LESSER G = GREATER E = EQUIVALENT

EXCLUDED AREA 13 (EA13)

CHARACTERISTICS	CANDIDATE AREAS (CA) 1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	COMMENTS
DEPTH OF SILT/ CLAY SOILS (METRES)	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	EA13 has less soil depth (<10 m) than all CAs (predominantly 10-20 m for CAs 1, 2, and 4-13 inclusive and predominantly 20-30 m for CAs 3 and 14-19 inclusive). All CAs are preferable to EA13 hydrogeologically.
COMPLEXITY OF SOILS	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	EA13 has more complex soils with a sand or bedrock underlayer than CAs 1-3 inclusive, 5, 9-13 inclusive, 15, 18, and 19 which have uniform soils and CAs 4, 6, 7, 8, 14, 16, and 17 which have locally intermixed soils. All CAs are preferable to EA13 hydrogeologically.
LAKE BREEZES	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	EA13 and all CAs are not affected by lake breezes. All 19 CAs are comparable to EA13 for atmospheric dispersion.
TOPOGRAPHIC INFLUENCE	L	L	L	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	Although EA13 has no topographic influence, neither do CAs 4-19 inclusive. 16 CAs (4-19 inclusive) are comparable to EA13 for atmospheric dispersion.
URBAN HEAT ISLANDS	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	EA13 and all CAs are not affected by urban heat islands. All 19 CAs are comparable to EA13 for atmospheric dispersion.
DISTANCE FROM CATEGORY 1 (KM)	G	G	G	G	G	G	L	G	G	G	G	G	G	G	G	L	E	G	G	EA13 is generally farther (20-30 km) from category 1 waters than 16 CAs (1-6 inclusive, 8-15 inclusive, 18, and 19) and an equivalent distance to 1 CA (17). Only 2 CAs (7 and 16) are somewhat farther from category 1 waters than EA13.
TRAVEL TIME (MINUTES) FROM CENTROID	G	G	G	G	G	G	L	G	G	G	L	L	L	G	G	G	E	G	L	EA13 is generally farther from the centroid (45-60 min.) than 13 CAs (1-6 inclusive, 8-10 inclusive, 14-16 inclusive, and 18) and an equivalent distance to 1 CA (17).
TRAVEL TIME (MINUTES) FROM 400-SERIES HIGHWAYS	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	EA13 is generally farther from 400-series highways (20-30 min.) than all 19 CAs.
SOIL CAPABILITY CLI CLASSES	G	E	G	E	G	G	G	G	G	G	G	G	G	E	E	G	G	G	G	Although EA13 has a higher class of soil (Class 1) than 15 CAs, 4 CAs (2, 4, 14, and 15) have all Class 1 soils; and 6 CAs (1, 3, 5, 6, 11, and 16) have predominantly Class 1 soils.

SPECIALTY AGRICULTURE	E E E E L L E L L L L E E E E L E L E	Although EA13 has limited specialty agriculture, 11 CAs (1-4 inclusive, 7, 12-15 inclusive, 17, and 19) also have limited specialty agriculture.
% TOWNSHIP IN FARMING	G G G G G G G G G G G G G G G G G G	EA13 has a larger % township in farming (>80%) than all 19 CAs.
CAPITAL VALUE PER ACRE ($)	L L L L L L L L L L E E L L L L E L E	Although EA13 has a lower capital value/acre (<$3000) than 14 CAs, 5 CAs (8, 11, 12, 17 and 19) have an equivalent capital value/acre.
ANNUAL SALES PER IMPROVED ACRE ($)	L L L L L L L L L L L L L L L L L L L	Although EA13 has lower annual sales/improved acre (<$300) than all CAs, 6 CAs (7, 12, 13, 16, 17 and 19) have predominantly <$300 annual sales/improved acre.
PROXIMITY TO URBAN BUILT-UP AREAS (KM)	G G G G G G G G G G G G G G G G G G	EA13 is farther from urban built-up areas (<25 km Hamilton) than all CAs. The CAs range in distance from <1 to <14 km from urban built-up areas offering a range of choice for site selection.
RURAL POPULATION DENSITY (PERSONS/KM^2)	E E E G E G G L L G E E G G E G L L G	EA13 has a greater rural population density (20-40 persons/km^2) than 8 CAs (4, 6, 7, 10, 13, 14, 16, and 19) and an equivalent density to 7 CAs (1-3 inclusive, 5, 11, 12, and 15).
PUBLICLY OWNED LAND	E L E E L E E E E E E E E E E E E E	Two CAs (2 and 5) contain publicly owned land, and 1 CA (3) appears to have publicly owned land immediately adjacent. EA13 has no publicly owned land similar to 17 CAs.
INDUSTRIALLY DESIGNATED LAND	E E E L E L L E E E E E L E E E E L E	EA13 has no industrially designated lands similar to 14 CAs. 5 CAs (4, 6, 7, 13, and 18) contain industrially designated lands, and 3 CAs (12, 14, and 19) appear adjacent to industrially designated lands.

SUMMARY: EA13 was primarily excluded for hydrogeologic reasons (<10 m soil depth and a sand or bedrock underlayer). EA13 has no preferred characteristics that are not possessed by some CAs.

L = LESSER G = GREATER E = EQUIVALENT

EXCLUDED AREA 14 (EA14)

CHARACTERISTICS	CANDIDATE AREAS (CAs) 1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	COMMENTS
DEPTH OF SILT/ CLAY SOILS (METRES)	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	EA14 has less soil depth (<10 m) than all CAs (predominantly 10-20 m for CAs 1, 2, and 4-13 inclusive and predominantly 20-30 m for CAs 3 and 14-19 inclusive). All CAs are preferable to EA14 hydrogeologically.
COMPLEXITY OF SOILS	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	EA14 has more complex soils with a sand or bedrock underlayer than CAs 1-3 inclusive, 5, 9-13 inclusive, 15, 18, and 19 which have uniform soils and CAs 4, 6, 7, 8, 14, 16, and 17 which have locally intermixed soils. All CAs are preferable to EA14 hydrogeologically.
LAKE BREEZES	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	EA14 and all CAs are not affected by lake breezes. All 19 CAs are comparable to EA14 for atmospheric dispersion.
TOPOGRAPHIC INFLUENCE	L	L	L	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	Although EA14 has no topographic influence, neither do CAs 4-19 inclusive. 16 CAs (4-19 inclusive) are comparable to EA14 for atmospheric dispersion.
URBAN HEAT ISLANDS	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	EA14 and all CAs are not affected by urban heat islands. All 19 CAs are comparable to EA14 for atmospheric dispersion.
DISTANCE FROM CATEGORY 1 (KM)	G	G	G	G	G	L	L	L	G	G	G	G	G	G	G	L	L	G	G	EA14 is generally farther (10-25 km) from category 1 waters than 14 CAs (1-5 inclusive, 9-15 inclusive, 18, and 19). 5 CAs (6-8 inclusive, 16, and 17) are somewhat farther from category 1 waters than EA14.
TRAVEL TIME (MINUTES) FROM CENTROID	G	G	G	G	G	G	G	G	G	G	L	L	E	G	G	G	G	G	E	EA14 is generally farther from the centroid (60-75 min.) than 15 CAs (1-10 inclusive and 14-18 inclusive) and equally as far as 2 CAs (13 and 19).
TRAVEL TIME (MINUTES) FROM 400-SERIES HIGHWAYS	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	EA14 is generally farther from 400-series highways (30-50 min.) than all CAs. No CA is farther than 30 min. from 400-series highways.
SOIL CAPABILITY CLI CLASSES	E	L	E	L	E	E	G	G	G	G	E	G	G	L	L	E	G	G	G	Although EA14 has a higher class of soil (predominantly Class 1) than 9 CAs, 4 CAs (2, 4, 14, and 15) have a higher class of soil (all Class 1); and 6 CAs (1, 3, 5, 6, 11, and 16) have equally as good soil.

SPECIALTY AGRICULTURE	E E E E L L E L L L L E E E E L E L E	Although EA14 has limited specialty agriculture, 11 CAs (1-4 inclusive, 7, 12-15 inclusive, 17, and 19) also have limited specialty agriculture.
% TOWNSHIP IN FARMING	G G G G G G G G G G G G G G G G G G	EA14 has a larger % township in farming (>80%) than all 19 CAs.
CAPITAL VALUE PER ACRE ($)	L L L L L L L E L L E E L L L L E L E	Although EA14 has a lower capital value/acre (<$3,000) than 14 CAs, 5 CAs (8, 11, 12, 17, and 19) have an equivalent capital value/acre.
ANNUAL SALES PER IMPROVED ACRE ($)	L L L L L L L L L L L L L L L L L L L	Although EA14 has lower annual sales/improved acre (<$300) than all CAs, 6 CAs (7, 12, 13, 16, 17, and 19) have predominantly <$300 annual sales/improved acre.
PROXIMITY TO URBAN BUILT-UP AREAS (KM)	G G G G G G G G G G G G G G G G G G G	EA14 is farther from urban built-up areas (<30 km Hamilton) than all CAs. The CAs range in distance from <1 to <14 km from urban built-up areas offering a range of choice for site selection.
RURAL POPULATION DENSITY (PERSONS/KM^2)	E E E G E G G L L G E E G G E G L L G	EA14 has a greater rural population density (20-40 persons/km^2) than 8 CAs (4, 6, 7, 10, 13, 14, 16, and 19) and an approximately equivalent density to 7 CAs (1-3 inclusive, 5, 11, 12, and 15).
PUBLICLY OWNED LAND	G E G G E G G G G G G G G G G G G G G	Although EA14 has some publicly owned land within its boundaries, 2 CAs (2 and 5) contain publicly owned land; and 1 CA (3) appears to have publicly owned land immediately adjacent.
INDUSTRIALLY DESIGNATED LAND	E E E L E L L E E E E E L E E E E L E	EA14 has no industrially designated lands similar to 14 CAs. 5 CAs (4, 6, 7, 13, and 18) contain industrially designated lands, and 3 CAs (12, 14, and 19) appear adjacent to industrially designated lands.

SUMMARY: EA14 was primarily excluded for hydrogeologic reasons (<10 m soil depth and a sand or bedrock underlayer). Although EA14 has some publicly owned land, 2 CAs (2 and 5) contain publicly owned land as well. EA14 has no other preferred characteristic that is not possessed by some CAs.

L = LESSER G = GREATER E = EQUIVALENT

E X C L U D E D A R E A 15 (EA15)

CHARACTERISTICS	CANDIDATE AREAS (CAs) 1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	COMMENTS
DEPTH OF SILT/ CLAY SOILS (METRES)	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	EA15 has less soil depth (<10 m) than all CAs (predominantly 10-20 m for CAs 1, 2, and 4-13 inclusive and predominantly 20-30 m for CAs 3 and 14-19 inclusive). All CAs are preferable to EA15 hydrogeologically.
COMPLEXITY OF SOILS	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	EA15 has more complex soils with a sand or bedrock underlayer than CAs 1-3 inclusive, 5, 9-13 inclusive, 15, 18, and 19 which have uniform soils and CAs 4, 6, 7, 8, 14, 16, and 17 which have locally intermixed soils. All CAs are preferable to EA14 hydrogeologically.
LAKE BREEZES	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	EA15 is affected by lake breezes (predominantly 5 km). All 19 CAs are preferable to EA15 for atmospheric dispersion.
TOPOGRAPHIC INFLUENCE	L	L	L	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	Although EA15 has no topographic influence, neither do CAs 4-19 inclusive. 16 CAs (4-19 inclusive) are comparable to EA15 for atmospheric dispersion.
URBAN HEAT ISLANDS	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	EA15 and all CAs are not affected by urban heat islands. All 19 CAs are comparable to EA15 for atmospheric dispersion.
DISTANCE FROM CATEGORY 1 (KM)	L	L	L	L	L	L	L	L	L	L	E	G	G	L	L	L	L	L	G	Although EA15 is generally closer (5-15 km) to category 1 waters than 15 CAs, 3 CAs (12, 13, and 19) are generally closer to category 1 waters than EA15; and 1 CA (11) is an equivalent distance.
TRAVEL TIME (MINUTES) FROM CENTROID	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	EA15 is generally farther from the centroid (60-75 min.) than 15 CAs (1-10 inclusive and 14-18 inclusive) and equally as far as 2 CAs (13 and 19).
TRAVEL TIME (MINUTES) FROM 400-SERIES HIGHWAYS	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	EA15 is generally farther from 400-series highways (40-50 min.) than all CAs. No CA is farther than 30 min. from 400-series highways.
SOIL CAPABILITY CLI CLASSES	L	L	L	L	L	L	L	L	L	G	L	G	G	L	L	L	G	G	G	EA15 has a lower class of soil (Class 2) than 13 CAs (1-9 inclusive, 11, and 14-16 inclusive).

SPECIALTY AGRICULTURE	E E E E L L E L L L L E E E E L E L E	Although EA15 has limited specialty agriculture, 11 CAs (1-4 inclusive, 7, 12-15 inclusive, 17, and 19) also have limited specialty agriculture.
% TOWNSHIP IN FARMING	G G G G G G G E G G G G G G G G E G G	EA15 has a larger % township in farming (predominantly >80% and some 60-80%) than 17 CAs (1-7 inclusive, 9-16 inclusive, 18, and 19).
CAPITAL VALUE PER ACRE ($)	L L L L L L L E L L E E L L L L E L E	Although EA15 has a lower capital value/acre (<$3,000) than 14 CAs, 5 CAs (8, 11, 12, 17, and 19) have an equivalent capital value/acre.
ANNUAL SALES PER IMPROVED ACRE ($)	L L L L L L L L L L L E E L L E E L E	Although EA15 has lower annual sales/improved acre (predominantly <$300 and some $300-$599) than 14 CAs (1-11 inclusive, 14, 15, and 18), 5 CAs (12, 13, 16, 17, and 19) have an equivalent amount.
PROXIMITY TO URBAN BUILT-UP AREAS (KM)	G G G G G G G G G G G G G G G G G G G	EA15 is located farther from an urban built-up area (<40 km Hamilton and <40 km Port Colborne) than all 19 CAs. The CAs range in distance from <1 to <14 km from urban built-up areas offering a range of choice for site selection.
RURAL POPULATION DENSITY (PERSONS/KM^2)	E E E G E G G L L G E E G G E G L L G	EA15 has a greater rural population density (20-40 persons/km^2) than 8 CAs (4, 6, 7, 10, 13, 14, 16, and 19) and an approximately equivalent density to 7 CAs (1-3 inclusive, 5, 11, 12, and 15).
PUBLICLY OWNED LAND	G E G G E G G G G G G G G G G G G G G	Although EA15 is publicly owned land, 2 CAs (2 and 5) contain publicly owned land; and 1 CA (3) appears to have publicly owned land immediately adjacent.
INDUSTRIALLY DESIGNATED LAND	E E E L E L L E E E E E L E E E E L E	EA15 has no industrially designated lands similar to 14CAs. 5 CAs (4, 6, 7, 13, and 18) contain industrially designated lands, and 3CAs (12, 14, and 19) appear adjacent to industrially designated lands.

SUMMARY: EA15 was primarily excluded for hydrogeologic reasons (<10 m soil depth and a sand or bedrock underlayer). Although EA15 is publicly owned land, 2 CAs (2 and 5) contain publicly owned land as well. EA15 has no other preferred characteristic that is not possessed by some CAs.

L = LESSER G = GREATER E = EQUIVALENT

EXCLUDED AREA 16 (EA16)

CHARACTERISTICS	CANDIDATE AREAS (CA) 1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	COMMENTS
DEPTH OF SILT/ CLAY SOILS (METRES)	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	EA16 has generally less soil depth (variable) than all CAs (predominantly 10-20 m for CAs 1, 2, and 4-13 inclusive and predominantly 20-30 m for CAs 3 and 14-19 inclusive). All CAs are preferable to EA16 hydrogeologically.
COMPLEXITY OF SOILS	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	EA16 has more complex soils (sandy) than CAs 1-3 inclusive, 5, 9-13 inclusive, 15, 18, and 19 which have uniform soils and CAs 4, 6-8 inclusive, 14, 16, and 17 which have locally intermixed soils. All CAs are preferable to EA16 hydrogeologically.
LAKE BREEZES	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	EA16 and all CAs are not affected by lake breezes. All 19 CAs are comparable to EA16 for atmospheric dispersion.
TOPOGRAPHIC INFLUENCE	L	L	L	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	Although EA16 has no topographic influence, neither do CAs 4-19 inclusive. 16 CAs (4-19 inclusive) are comparable to EA16 for atmospheric dispersion.
URBAN HEAT ISLANDS	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	EA16 and all CAs are not affected by urban heat islands. All 19 CAs are comparable to EA16 for atmospheric dispersion.
DISTANCE FROM CATEGORY 1 (KM)	E	G	E	G	G	L	L	L	G	G	G	G	G	E	G	L	L	G	G	EA16 is generally farther (15-20 km) from category 1 waters than 11 CAs (2, 4, 5, 9-13 inclusive, 15, 18, and 19). 5 CAs (6, 7, 8, 16, and 17) are generally farther from category 1 waters than EA16, and 3 CAs (1, 3, and 14) are an equivalent distance.
TRAVEL TIME (MINUTES) FROM CENTROID	G	G	G	G	G	G	G	G	G	G	L	L	E	G	G	G	G	G	E	EA16 is generally farther from the centroid (60-75 min.) than 15 CAs (1-10 inclusive and 14-18 inclusive) and equally as far as 2 CAs (13 and 19).
TRAVEL TIME (MINUTES) FROM 400-SERIES HIGHWAYS	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	EA16 is generally farther from 400-series highways (30 min.) than all CAs. No CA is farther than 30 min. distant from 400-series highways.
SOIL CAPABILITY CLI CLASSES	L	L	L	L	L	L	L	L	L	G	L	G	G	L	L	L	G	G	G	EA16 has a lower class of soil (Class 2) than 13 CAs (1-9 inclusive, 11, and 14-16 inclusive).

SPECIALTY AGRICULTURE	E E E E L L E L L L L E E E E L E L E	Although EA16 has limited specialty agriculture, 11 CAs (1-4 inclusive, 7, 12-15 inclusive, 17, and 19) also have limited specialty agriculture.
% TOWNSHIP IN FARMING	E E E G E E G L L G E G G G E G L L G	EA16 has a larger % township in farming (60-80%) than 8 CAs (4, 7, 10, 12-14 inclusive, and 19) and an approximately equivalent amount to 7 CAs (1-3 inclusive, 5, 6, 11, and 15).
CAPITAL VALUE PER ACRE ($)	L L L L L L L E L L E E L L L L E L E	Although EA16 has a lower capital value/acre (<$3000) than 14 CAs, 5 CAs (8, 11, 12, 17, and 19) have an equivalent capital value/acre.
ANNUAL SALES PER IMPROVED ACRE ($)	L L L E L E G G L L E G G E L G G L G	Although EA16 has lower annual sales/improved acre ($300-$599) than 8 CAs, 7 CAs (7, 8, 12, 13, 16, 17, and 19) have lower annual sales/improved acre; and 4 CAs (4, 6, 11, and 14) have an approximately equivalent amount.
PROXIMITY TO URBAN BUILT-UP AREAS (KM)	G G G G G G G G G G G G G G G G G G G	EA16 is farther from urban built-up areas (<30 km Welland) than all CAs. The CAs range in distance from <1 to <14 km from urban built-up areas offering a range of choice for site selection.
RURAL POPULATION DENSITY (PERSONS/KM^2)	E E E G E G G L L G E E G G E G L L G	EA16 has a greater rural population density (20-40 persons/km^2) than 8 CAs (4, 6, 7, 10, 13, 14, 16, and 19) and an approximately equivalent density to 7 CAs (1-3 inclusive, 5, 11, 12, and 15).
PUBLICLY OWNED LAND	E L E E L E E E E E E E E E E E E E	2 CAs (2 and 5) contain publicly owned land, and 1 CA(3) appears to have publicly owned land immediately adjacent. EA16 has no publicly owned land similar to 17 CAs.
INDUSTRIALLY DESIGNATED LAND	E E E L E L L E E E E E L E E E E L E	EA16 has no industrially designated lands similar to 14 CAs. 5 CAs (4, 6, 7, 13, and 18) contain industrially designated lands, and 3 CAs (12, 14, and 19) appear adjacent to industrially designated lands.

SUMMARY: EA16 was primarily excluded for hydrogeologic reasons (variable soil depth and sandy soils). EA16 has no preferred characteristic that is not possessed by some CAs.

L = LESSER G = GREATER E = EQUIVALENT

EXCLUDED AREA 17 (EA17)

CHARACTERISTICS	CANDIDATE AREAS (CA) 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19	COMMENTS
DEPTH OF SILT/ CLAY SOILS (METRES)	L L L L L L L L L L L L L L L L L L L	EA17 has less soil depth (predominantly <10 m and portion variable) than all CAs (predominantly 10-20 m for CAs 1, 2, and 4-13 inclusive and predominantly 20-30 m for CAs 3 and 14-19 inclusive). All CAs are preferable to EA17 hydrogeologically.
COMPLEXITY OF SOILS	G G G G G G G G G G G G G G G G G G G	EA17 has more complex soils (predominantly with a sand or bedrock underlayer and a portion sandy) than CAs 1-3 inclusive, 5, 9-13 inclusive, 15, 18, and 19 which have uniform soils and CAs 4, 6, 7, 8, 14, 16, and 17 which have locally intermixed soils. All CAs are preferable to EA17 hydrogeologically.
LAKE BREEZES	E E E E E E E E E E E E E E E E E E E	EA17 and all CAs are not affected by lake breezes. All 19 CAs are comparable to EA17 for atmospheric dispersion.
TOPOGRAPHIC INFLUENCE	L L L E E E E E E E E E E E E E E E E	Although EA17 has no topographic influence, neither do CAs 4-19 inclusive. 16 CAs (4-19 inclusive) are comparable to EA17 for atmospheric dispersion.
URBAN HEAT ISLANDS	E E E E E E E E E E E E E E E E E E E	EA17 and all CAs are not affected by urban heat islands. All 19 CAs are comparable to EA17 for atmospheric dispersion.
DISTANCE FROM CATEGORY 1 (KM)	L L L L L L L L L L G G G L L L L E G	Although EA17 is generally closer (5-20 km) to category 1 waters than 14 CAs, 4 CAs (11-13 inclusive and 19) are closer to category 1 than EA17; and 1 CA (18) is an approximately equivalent distance.
TRAVEL TIME (MINUTES) FROM CENTROID	G G G G G G L E G G L L L G G G L L L	EA17 is generally farther from the centroid (30-75 min.) than 11 CAs (1-6 inclusive, 9, 10, and 14-16 inclusive) and equally as far as 1 CA(8).
TRAVEL TIME (MINUTES) FROM 400-SERIES HIGHWAYS	G G G G G G L L G G L G G G G G L E G	EA17 is generally farther from 400-series highways (<10-30 min.) than 14 CAs (1-6 inclusive, 9, 10, 12-16 inclusive, and 19) and an approximately equivalent distance to 1 CA(18).
SOIL CAPABILITY CLI CLASSES	L L L L L L L E L E L G G L L L E E G	EA17 has a lower class of soil (predominantly Class 2 with areas of Class 1 and Class 4) than 12 CAs (1-7 inclusive, 9, 11, and 14-16 inclusive) and approximately equivalent classes of soil to 4 CAs (8, 10, 17, and 18).

SPECIALITY AGRICULTURE	G G G G L G G G L G G G G G G G G E G	EA17 has more specialty agriculture (concentrated and scattered) than 16 CAs and an equivalent amount to 3 CAs. All CAs are preferable or equivalent to EA17.
% TOWNSHIP IN FARMING	G G G G G G G L E G G G G G G G L E G	EA17 has a larger % township in farming (predominantly >80% with some 60-80% and some 40-59%) than 15 CAs (1-7 inclusive, 10-16 inclusive, and 19) and an approximately equivalent amount to 2 CAs (9 and 18).
CAPITAL VALUE PER ACRE ($)	L L L L L L G G E L G G G L L G G G G	Although EA17 has a lower capital value/acre (predominantly <$3000 with some $3000-$5999 and $6000-$9000) than 9 CAs, 9 CAs (7, 8, 11-13 inclusive, and 16-19 inclusive) have a lower capital value/acre; and 1 CA(9) has an approximately equivalent amount.
ANNUAL SALES PER IMPROVED ACRE ($)	L L L G L G G G E L G G G G L G G G G	EA17 has higher annual sales/improved acre (predomirantly $300-$599 with some $600-$900 and some >$900) than 12 CAs (4, 6-8 inclusive, 11-14 inclusive, and 16-19 inclusive) and an approximately equivalent amount to 1 CA(9).
PROXIMITY TO URBAN BUILT-UP AREAS (KM)	G G G G G G G L G G G G G G G L L G G	EA17 is somewhat farther from an urban built-up area (<6 km St. Catharines, Welland, and Hamilton) than 16 CAs (1-7 inclusive, 9-15 inclusive, 18, and 19). EA17 is closer to an urban built-up area than 3 CAs (8, 16, and 17). The CAs provide a range of options for site selection.
RURAL POPULATION DENSITY (PERSONS/KM^2)	G G G G G E G E E G G G G G G G E E G	EA17 has a greater rural population density (20-40 and >40 persons/km^2) than 14 CAs (1-5 inclusive, 7, 10-16 inclusive, and 19) and an approximately equivalent amount to 5 CAs (6, 8, 9, 17, and 18).
PUBLICLY OWNED LAND	E L E E L E E E E E E E E E E E E E E	2 CAs (2 and 5) contain publicly owned land, and 1 CA (3) appears immediately adjacent to publicly owned land. EA17 has no publicly owned land similar to 17 CAs.
INDUSTRIALLY DESIGNATED LAND	G G G E G E E G G G G G E G G G G E G	Although EA17 contains some industrially designated land, 5 CAs (4, 6, 7, 13, and 18) contain industrially designated lands; and 3 CAs (12, 14, and 19) appear adjacent to industrially designated lands.

SUMMARY: EA17 was primarily excluded for hydrogeologic reasons (predominantly <10 m and a portion with variable soil depth and predominantly with a sand or bedrock underlayer and a portion sandy soil). EA17 has a lower class of soil, more specialty agriculture, a larger % township in farming, higher annual sales/improved acre, and a greater rural population density than the majority of CAs. Although EA17 contains industrially designated land, 5 CAs (4, 6, 7, 13, and 18) also contain industrially designated lands. EA17 has no preferred characteristic which is not possessed by some CAs.

L = LESSER G = GREATER E = EQUIVALENT

EXCLUDED AREA 18 (EA18)

CHARACTERISTICS	CANDIDATE AREAS (CA) 1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	COMMENTS
DEPTH OF SILT/ CLAY SOILS (METRES)	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	EA18 has less soil depth (<10 m) than all CAs (predominantly 10-20 m for CAs 1, 2, and 4-13 inclusive and predominantly 20-30 m for CAs 3 and 14-19 inclusive). All CAs are preferable to EA18 hydrogeologically.
COMPLEXITY OF SOILS	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	EA18 has more complex soils with a sand or bedrock underlayer than CAs 1-3 inclusive, 5, 9-13 inclusive, 15, 18, and 19 which have uniform soils and CAs 4, 6, 7, 8, 14, 16, and 17 which have locally intermixed soils. All CAs are preferable to EA18 hydrogeologically.
LAKE BREEZES	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	EA18 is affected by lake breezes (2 and 5 km). All 19 CAs are preferable to EA18 for atmospheric dispersion.
TOPOGRAPHIC INFLUENCE	L	L	L	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	Although EA18 has no topographic influence, neither do CAs 4-19 inclusive. 16 CAs (4-19 inclusive) are comparable to EA18 for atmospheric dispersion.
URBAN HEAT ISLANDS	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	EA18 and all CAs are not affected by urban heat islands. All 19 CAs are comparable to EA18 for atmospheric dispersion.
DISTANCE FROM CATEGORY 1 (KM)	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	Although EA18 is closer (0-10 km) to category 1 waters than all 19 CAs, 3 CAs (12, 13, and 19) are within 10 km of category 1 waters.
TRAVEL TIME (MINUTES) FROM CENTROID	G	G	G	G	G	G	G	G	G	L	L	G	G	G	G	G	G	G	G	EA18 is generally farther from the centroid (60-90 min.) than 17 CAs (1-10 inclusive and 13-19 inclusive).
TRAVEL TIME (MINUTES) FROM 400-SERIES HIGHWAYS	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	EA18 is farther from 400-series highways (40 min.) than all 19 CAs. No CA is farther than 30 min. distant from 400-series highways.
SOIL CAPABILITY CLI CLASSES	L	L	L	L	L	L	L	E	L	E	L	G	G	L	L	L	E	E	G	EA18 has a lower class of soil (predominantly Class 2 with an area of Class 4) than 12 CAs (1-7 inclusive, 9, 11, and 14-16 inclusive) and approximately equivalent classes of soil to 4 CAs (8, 10, 17, and 18).

SPECIALTY AGRICULTURE	E E E E L L E L L L L E E E E L E L E	Although EA18 has limited specialty agriculture, 11 CAs (1-4 inclusive, 7, 12-15 inclusive, 17, and 19) also have limited specialty agriculture.
% TOWNSHIP IN FARMING	E E E G E E G L L G E G G G E G L L G	EA18 has a larger % township in farming (60-80%) than 8 CAs (4, 7, 10, 12-14 inclusive, and 19) and an approximately equivalent amount to 7 CAs (1-3 inclusive, 5, 6, 11, and 15).
CAPITAL VALUE PER ACRE ($)	L L L L L L L E L L E E L L L L E L E	Although EA18 has a lower capital value/acre (<$3000) than 14 CAs, 5 CAs (8, 11, 12, 17, and 19) have an equivalent capital value/acre.
ANNUAL SALES PER IMPROVED ACRE ($)	L L L E L E G G L L E G G E L G G L G	Although EA18 has lower annual sales/improved acre ($300-$599) than 8 CAs, 7 CAs (7, 8, 12, 13, 16, 17, and 19) have lower annual sales/improved acre; and 4 CAs (4, 6, 11, and 14) have an approximately equivalent amount.
PROXIMITY TO URBAN BUILT-UP AREAS (KM)	G G G G G G G G G G G G G G G G G G G	EA18 is located farther from urban built-up areas (<20 km Port Colborne) than all CAs. The CAs range in distance from <1 to <14 km from urban built-up areas offering a range of choice for site selection.
RURAL POPULATION DENSITY (PERSONS/KM^2)	E E E G E G G L L G E E G G E G L L G	EA18 has a greater rural population density (20-40 persons/km^2) than 8 CAs (4, 6, 7, 10, 13, 14, 16, and 19) and an equivalent density to 7 CAs (1-3 inclusive, 5, 11, 12, and 15).
PUBLICLY OWNED LAND	G E G G E G G G G G G G G G G G G G G	Although EA18 has some publicly owned land within its boundaries, 2 CAs (2 and 5) contain publicly owned land; and 1 CA(3) appears to have publicly owned land immediately adjacent.
INDUSTRIALLY DESIGNATED LAND	G G G E G E E G G G G G E G G G G E G	Although EA18 contains industrially designated land, 5 CAs (4, 6, 7, 13, and 18) contain industrially designated lands; and 3 CAs (12, 14, and 19) appear adjacent to industrially designated lands.

SUMMARY: EA18 was primarily excluded for hydrogeologic reasons (<10 m soil depth and a sand or bedrock underlayer). Also, EA18 offers poor atmospheric dispersion because it is afected by lake breezes. EA18 has a lower class of soil and a larger % township farming than a number of CAs. Although EA18 has some publicly owned land, 2 CAs (2 and 5) contain publicly owned land as well. Although EA18 contains industrially designated lands, 5 CAs (4, 6, 7, 13, and 18) also contain industrially designated lands. EA18 has no other preferred characteristic which is not possessed by some CAs.

L = LESSER G = GREATER E = EQUIVALENT

EXCLUDED AREA 19 (EA19)

CHARACTERISTICS	CANDIDATE AREAS (CA) 1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	COMMENTS
DEPTH OF SILT/ CLAY SOILS (METRES)	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	EA19 has generally less soil depth (variable) than all CAs (predominantly 10-20 m for CAs 1, 2, and 4-13 inclusive and predominantly 20-30 m for CAs 3 and 14-19 inclusive). All CAs are preferable to EA19 hydrogeologically.
COMPLEXITY OF SOILS	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	EA19 has more complex soils (sandy) than CAs 1-3 inclusive, 5, 9-13 inclusive, 15, 18, and 19 which have uniform soils and CAs 4, 6-8 inclusive, 14, 16, and 17 which have locally intermixed soils. All CAs are preferable to EA19 hydrogeologically.
LAKE BREEZES	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	EA19 and all CAs are not affected by lake breezes. Al 19 CAs are comparable to EA19 for atmospheric dispersion.
TOPOGRAPHIC INFLUENCE	L	L	L	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	Although EA19 has no topographic influence, neither do CAs 4-19 inclusive. 16 CAs (4-19 inclusive) are comparable to EA19 for atmospheric dispersion.
URBAN HEAT ISLANDS	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	EA19 and all CAs are not affected by urban heat islands. All 19 CAs are comparable to EA19 for atmospheric dispersion.
DISTANCE FROM CATEGORY 1 (KM)	E	G	E	G	G	L	L	L	G	G	G	G	G	E	G	L	L	G	G	EA19 is generally farther (15-20 km) from category 1 waters than 11 CAs (2, 4, 5, 9-13 inclusive, 15, 18, and 19). 5 CAs (6, 7, 8, 16, and 17) are generally farther from category 1 waters than EA19, and 3 CAs (1, 3, and 14) are an equivalent distance.
TRAVEL TIME (MINUTES) FROM CENTROID	G	G	G	G	G	G	G	G	G	G	L	L	E	G	G	G	G	G	E	EA19 is generally father from the centroid (60-70 min.) than 15 CAs (1-10 inclusive and 14-18 inclusive) and equally as far as 2 CAs (13 and 19).
TRAVEL TIME (MINUTES) FROM 400-SERIES HIGHWAYS	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	EA19 is generally farther from 400-series highways (30 min.) than all CAs. No CA is farther than 30 min. distant from 400-series highways.
SOIL CAPABILITY CLI CLASSES	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	EA19 has a lower class of soil (predominantly Class 4 and an area of Class 2) than all 19 CAs.

SPECIALTY AGRICULTURE	E E E E L L E L L L L E E E E L E L E	Although EA19 has limited specialty agriculture, 11 CAs (1-4 inclusive, 7, 12-15 inclusive, 17, and 19) also have limited specialty agriculture.
% TOWNSHIP IN FARMING	E E E G E E G L L G E G G G E G L L G	EA19 has a larger % township in farming (60-80%) than 8 CAs (4, 7, 10, 12-14 inclusive, and 19) and an approximately equivalent amount to 7 CAs (1-3 inclusive, 5, 6, 11, and 15).
CAPITAL VALUE PER ACRE ($)	L L L L L L L E L L E E L L L L E L E	Although EA19 has a lower capital value/acre (<$3000) than 14 CAs, 5 CAs (8, 11, 12, 17, and 19) have an equivalent capital value/acre.
ANNUAL SALES PER IMPROVED ACRE ($)	L L L E L E G G L L E G G E L G G L G	Although EA19 has lower annual sales/improved acre ($300-$599) than 8 CAs, 7 CAs (7, 8, 12, 13, 16, 17, and 19) have lower annual sales/improved acre; and 4CAs (4, 6, 11, and 14) have an approximately equivalent amount.
PROXIMITY TO URBAN BUILT-UP AREAS (KM)	G G G G G G G G G G G G G G G G G G G	EA19 is located farther from urban built-up areas (<20 km Welland) than all CAs. The CAs range in distance from <1 to <14 km from urban built-up areas offering a range of choice for site selection.
RURAL POPULATION DENSITY (PERSONS/KM^2)	E E E G E G G L L G E E G G E G L L G	EA19 has a greater rural population density (20-40 perons/ km^2) than 8 CAs (4, 6, 7, 10, 13, 14, 16, and 19) and an equivalent density to 7 CAs (1-3 inclusive, 5, 11, 12, and 15).
PUBLICLY OWNED LAND	E L E E L E E E E E E E E E E E E E E	Two CAs (2 and 5) contain publicly owned land, and 1 CA (3) appears to have publicly owned land immediately adjacent. EA19 has no publicly owned land similar to 17 CAs.
INDUSTRIALLY DESIGNATED LAND	E E E L E L L E E E E E L E E E E L E	EA19 has no industrially designated lands similar to 14 CAs. 5 CAs (4, 6, 7, 13, and 18) contain industrially designated lands, and 3 CAs (12, 14, and 19) appear adjacent to industrially designated lands.

SUMMARY: EA19 was primarily excluded for hydrogeologic reasons (variable soil depth and sandy soil). EA19 has no preferred characteristic which is not possessed by some CAs.

L = LESSER G = GREATER E = EQUIVALENT

EXCLUDED AREA 20 (EA20)

CHARACTERISTICS	CANDIDATE AREAS (CA) 1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	COMMENTS
DEPTH OF SILT/ CLAY SOILS (METRES)	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	EA20 has generally less soil depth (variable) than all CAs (predominantly 10-20 m for CAs 1, 2, and 4-13 inclusive and predominantly 20-30 m for CAs 3 and 14-19 inclusive). All CAs are preferable to EA20 hydrogeologically.
COMPLEXITY OF SOILS	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	EA20 has more complex soils (sandy) than CAs 1-3 inclusive, 5, 9-13 inclusive, 15, 18, and 19 which have uniform soils and CAs 4, 6-8 inclusive, 14, 16, and 17 which have locally intermixed soils. All CAs are preferable to EA20 hydrogeologically.
LAKE BREEZES	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	EA20 is affected by a lake breeze (5 km) at the south tip. All 19 CAs are preferable to EA20 for atmospheric dispersion.
TOPOGRAPHIC INFLUENCE	L	L	L	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	Although EA20 has no topographic influence, neither do CAs 4-19 inclusive. 16 CAs (4-19 inclusive) are comparable to EA20 for atmospheric dispersion.
URBAN HEAT ISLANDS	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	EA20 and all CAs are not affected by urban heat islands. All 19 CAs are comparable to EA20 for atmospheric dispersion.
DISTANCE FROM CATEGORY 1 (KM)	L	L	L	L	L	L	L	L	L	L	E	G	G	L	L	L	L	L	G	Although EA20 is generally closer (5-15 km) to category 1 waters than 15 CAs, 3 CAs (12, 13, and 19) are generally closer to category 1 than EA20; and 1 CA (11) is an equivalent distance.
TRAVEL TIME (MINUTES) FROM CENTROID	G	G	G	G	G	G	G	G	G	G	L	L	G	G	G	G	G	G	G	EA20 is generally farther from the centroid (60-90 min.) than 17 CAs (1-10 inclusive and 13-19 inclusive).
TRAVEL TIME (MINUTES) FROM 400-SERIES HIGHWAYS	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	EA20 is generally farther from 400-series highways (<30-40 min.) than all 19 CAs. No CA is farther than 30 min. distant from 400-series highways.
SOIL CAPABILITY CLI CLASSES	E	L	E	L	E	E	G	G	G	G	E	G	G	L	L	E	G	G	G	Although EA20 has a higher class of soil (predominantly Class 1) than 9 CAs, 4 CAs (2, 4, 14, and 15) have a higher class of soil (Class 1); and 6 CAs (1, 3, 5, 6, 11, and 16) have equally as good soil.

SPECIALTY AGRICULTURE	G	G	G	G	E	G	G	G	E	G	G	G	G	G	G	G	E	G	EA20 has more specialty agriculture (concentrated) than 16 CAs and an equivalent amount to 3 CAs. All CAs are preferable or equivalent to EA20.
% TOWNSHIP IN FARMING	E	E	E	G	E	E	G	L	L	G	E	G	G	G	E	G	L	L	G	EA20 has a larger % township in farming (60-80%) than 8 CAs (4, 7, 10, 12-14 inclusive, and 19) and an approximately equivalent amount to 7 CAs (1-3 inclusive, 5, 6, 11, and 15).
CAPITAL VALUE PER ACRE ($)	L	L	L	L	L	L	L	E	L	L	E	E	L	L	L	L	E	L	E	Although EA20 has a lower capital value/acre (<$3000) than 14 CAs, 5 CAs (8, 11, 12, 17, and 19) have an equivalent capital value/acre.
ANNUAL SALES PER IMPROVED ACRE ($)	L	L	L	E	L	E	G	G	L	L	E	G	G	E	L	G	G	L	G	Although EA20 has lower annual sales/improved acre ($300-$599) than 8 CAs, 7 CAs (7, 8, 12, 13, 16, 17, and 19) have lower annual sales/improved acre; and 4 CAs (4, 6, 11, and 14) have an approximately equivalent amount.
PROXIMITY TO URBAN BUILT-UP AREAS (KM)	G	G	G	G	G	G	G	E	G	G	G	G	G	G	G	G	E	G	G	EA20 is somewhat farther from urban built-up areas (<14 km Welland and Port Colborne) than 17 CAs and an approximately equivalent distance to 2 CAs. Distances from urban built-up areas range from <1 to <14 km for CAs offering a range of choice for site selection.
RURAL POPULATION DENSITY (PERSONS/KM^2)	E	E	E	G	E	G	G	L	L	G	E	E	G	G	E	G	L	L	G	EA20 has a greater rural population density (20-40 persons/km^2) than 8 CAs (4, 6, 7, 10, 13, 14, 16, and 19) and an equivalent density to 7 CAs (1-3 inclusive, 5, 11, 12, and 15).
PUBLICLY OWNED LAND	E	L	E	E	L	E	E	E	E	E	E	E	E	E	E	E	E	E	E	Two CAs (2 and 5) contain publicly owned land, and 1 CA (3) appears to have publicly owned land immediately adjacent. EA20 has no publicly owned land similar to 17 CAs.
INDUSTRIALLY DESIGNATED LAND	E	E	E	L	E	L	L	E	E	E	E	E	L	E	E	E	E	L	E	EA20 has no industrially designated lands similar to 14 CAs. 5 CAs (4, 6, 7, 13, and 18) contain industrially designated lands, and 3 CAs (12, 14, and 19) appear adjacent to industrially designated lands.

SUMMARY: EA20 was primarily excluded for hydrogeologic reasons (variable soil depth and sandy soils). EA20 is affected by a 5 km lake breeze at its south tip and has more specialty agriculture than most CAs. EA20 has no preferred characteristic not possessed by some CAs.

L = LESSER G = GREATER E = EQUIVALENT

EXCLUDED AREA 21 (EA21)

CHARACTERISTICS	CANDIDATE AREAS (CA) 1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	COMMENTS
DEPTH OF SILT/ CLAY SOILS (METRES)	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	EA21 has generally less soil depth (variable) than all CAs (predominantly 10-20 m for CAs 1, 2, and 4-13 inclusive and predominantly 20-30 m for CAs 3 and 14-19 inclusive). All CAs are preferable to EA21 hydrogeologically.
COMPLEXITY OF SOILS	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	EA21 has more complex soils (sandy) than CAs 1-3 inclusive, 5, 9-13 inclusive, 15, 18, and 19 which have uniform soils and CAs 4, 6-8 inclusive, 14, 16, and 17 which have locally intermixed soils. All CAs are preferable to EA21 hydrogeologically.
LAKE BREEZES	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	EA21 is affected by lake breezes (2 and 5 km). All 19 CAs are preferable to EA21 for atmospheric dispersion.
TOPOGRAPHIC INFLUENCE	E	E	E	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	EA21 has a topographic influence similar to CAs 1-3 inclusive. 16 CAs (14-19 inclusive) have no topographic influence and are preferable to EA21 for atmospheric dispersion.
URBAN HEAT ISLANDS	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	EA21 and all CAs are not affected by urban heat islands. All 19 CAs are comparable to EA21 for atmospheric dispersion.
DISTANCE FROM CATEGORY 1 (KM)	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	Although EA21 is closer (0-10 km) to category 1 waters than all 19 CAs, 3 CAs (12, 13, and 19) are within 10 km of category 1 waters.
TRAVEL TIME (MINUTES) FROM CENTROID	G	G	G	G	G	G	L	G	G	G	L	L	L	G	G	G	L	G	L	EA21 is generally farther from the centroid (<45-60 min.) than 13 CAs (1-6 inclusive, 8-10 inclusive, 14-16 inclusive, and 18).
TRAVEL TIME (MINUTES) FROM 400-SERIES HIGHWAYS	E	L	E	E	L	L	L	L	L	L	L	L	E	E	L	L	L	L	E	Although EA21 is generally closer (<10 min.) to 400-series highways than 13 CAs (2, 5-12 inclusive, and 15-18 inclusive), 6 CAs (1, 3, 4, 13, 14, and 19) are as close to 400-series highways (<10 min.); and no CA is more than 30 min. distant.
SOIL CAPABILITY CLI CLASSES	L	L	L	L	L	L	L	E	L	E	L	G	G	L	L	L	E	E	G	EA21 has a lower class of soil (predominantly Class 2) than 12 CAs (1-7 inclusive, 9, 11, and 14-16 inclusive) and approximately equivalent classes of soil to 4 CAs (8, 10, 17, and 18).

SPECIALTY AGRICULTURE	G	G	G	G	E	G	G	G	E	G	G	G	G	G	G	G	G	E	G	EA21 has more specialty agriculture (concentrated) than 16 CAs and an approximately equivalent amount to 3 CAs. All CAs are preferable or equivalent to EA21.
% TOWNSHIP IN FARMING	L	L	L	G	L	L	L	L	L	G	L	G	G	G	L	L	L	L	G	Although EA21 has a lower % township in farming (60-80% and <40%) than 13 CAs, 6 CAs (4, 10, 12-14 inclusive, and 19) have a lower % township in farming.
CAPITAL VALUE PER ACRE ($)	G	G	G	L	G	G	G	G	G	G	G	G	G	L	G	G	G	G	G	EA21 has a higher capital value/acre ($6000-$9000 and >$9000) than 17 CAs (1-3 inclusive, 5-13 inclusive, and 15-19 inclusive).
ANNUAL SALES PER IMPROVED ACRE ($)	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	EA21 has greater annual sales/improved acre (>$900) than all 19 CAs.
PROXIMITY TO URBAN BUILT-UP AREAS (KM)	E	L	L	E	E	L	L	L	L	L	L	L	E	E	L	L	L	E	L	EA21 is closer to an urban built-up area (<1 km St. Catharines) than CAs 2, 3, 6-12 inclusive, 15-17 inclusive, and 19. CAs 1, 4, 5, 13, 14, and 18 are also <1 km from urban built-up areas. 7 CAs are a comparable distance from population centres, while 12 CAs are more remote offering a range of options for site selection.
RURAL POPULATION DENSITY (PERSONS/KM^2)	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	EA21 has a greater rural population density (>40 persons/km^2) than all 19 CAs.
PUBLICLY OWNED LAND	G	E	G	G	E	G	G	G	G	G	G	G	G	G	G	G	G	G	G	Although EA21 has some publicly owned land within its boundaries, 2 CAs (2 and 5) contain publicly owned land; and 1 CA (3) appears to have publicly owned land immediately adjacent.
INDUSTRIALLY DESIGNATED LAND	E	E	E	L	E	L	L	E	E	E	E	E	L	E	E	E	E	L	E	EA21 appears to have adjacent industrially designated lands similar to 3 CAs (12, 14, and 19). 5 CAs (4, 6, 7, 13, and 18) contain industrially designated lands.

SUMMARY: EA21 was primarily excluded for hydrogeologic reasons (variable soil depth and sandy soils). EA21 is affected by lake breezes resulting in poor atmospheric dispersion. EA21 is comprised of specialty agricultural operations providing greater annual sales/improved acre than all 19 CAs. EA21 also has a greater rural population density than all 19 CAs. Although EA21 has some publicly owned land within its boundaries, 2 CAs (2 and 5) contain publicly owned land. EA21 has no other preferred characteristic which is not possessed by some CAs.

L = LESSER G = GREATER E = EQUIVALENT

EXCLUDED AREA 22 (EA22)

CHARACTERISTICS	CANDIDATE AREAS (CA) 1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	COMMENTS
DEPTH OF SILT/ CLAY SOILS (METRES)	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	EA22 has generally less soil depth (predominantly variable and portion <10 m) than all CAs (predominantly 10-20 m for CAs 1, 2, and 4-13 inclusive and predominantly 20-30 m for CAs 3 and 14-19 inclusive). All CAs are preferable to EA22 hydrogeologically.
COMPLEXITY OF SOILS	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	EA22 has generally more complex soils (sandy and a portion with a sand or bedrock underlayer) than CAs 1-3 inclusive, 5, 9-13 inclusive, 15, 18, and 19 which have uniform soils and CAs 4, 6, 7, 8, 14, 16, and 17 which have locally intermixed soils. All CAs are preferable to EA22 hydrogeologically.
LAKE BREEZES	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	EA22 is affected by a lake breeze (5 km) at its east tip. All 19 CAs are preferable to EA22 for atmospheric dispersion.
TOPOGRAPHIC INFLUENCE	L	L	L	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	Although EA22 has no topographic influence, neither do CAs 4-19 inclusive. 16 CAs (4-19 inclusive) are comparable to EA22 for atmospheric dispersion.
URBAN HEAT ISLANDS	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	EA22 is affected by an urban heat island. All 19 CAs are preferable to EA22 for atmospheric dispersion.
DISTANCE FROM CATEGORY 1 (KM)	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	Although EA22 is generally closer (0-15 km) to category 1 waters than all 19 CAs, 3 CAs (12, 13, and 19) are within 10 km of category 1; and 4 CAs (2, 4, 10, and 11) are within 15 km of category 1.
TRAVEL TIME (MINUTES) FROM CENTROID	G	G	G	G	G	G	G	G	G	G	L	L	L	G	G	G	G	G	L	EA22 is generally farther from the centroid (45-90 min.) than 15 CAs (1-10 inclusive and 14-18 inclusive).
TRAVEL TIME (MINUTES) FROM 400-SERIES HIGHWAYS	G	L	G	G	E	E	L	L	E	E	L	L	G	G	E	E	L	L	G	Although EA22 is generally closer (<10-20 min.) to 400-series highways than 7 CAs (2, 7, 8, 11, 12, 17, and 18), 6 CAs (1, 3, 4, 13, 14, and 19) are closer to 400-series highways; and 6 CAs (5, 6, 10, 11, 15, and 16) are an approximately equivalent distance.
SOIL CAPABILITY CLI CLASSES	L	L	L	L	L	L	L	G	L	G	L	G	G	L	L	L	L	L	E	EA22 has a lower class of soil (Class 2 and Class 3 with areas of Other Classes) than 14 CAs (1-7 inclusive, 9, 11, and 14-18 inclusive) and approximately equivalent classes of soil to 1 CA (19).

SPECIALTY AGRICULTURE	G G G G L E G E L E E G G G G E G L G	EA22 has more specialty agriculture (scattered) than 11 CAs (1-4 inclusive, 7, 12-15 inclusive, 17, and 19) which have limited specialty agriculture.
% TOWNSHIP IN FARMING	L L L G L L L L L L L L G E L L L L G	Although EA22 has a lower % township in farming (predominantly <40% and some 40-59%) than 15 CAs, 3 CAs (4, 13, and 19) have a lower % township in farming; and 1 CA (14) has an approximately equivalent amount.
CAPITAL VALUE PER ACRE ($)	L L L L L L E G E L G G G L L E G E G	Although EA22 has a lower capital value/acre (predominantly <$3000 and some $3000-$5999) than 9 CAs, 6 CAs (8, 11, 12, 13, 17, and 19) have lower capital values/acre; and 4 CAs (7, 9, 16, and 18) have an approximately equivalent amount.
ANNUAL SALES PER IMPROVED ACRE ($)	L L L L L L E L L L L E G L L G G L G	Although EA22 has lower annual sales/improved acre ($300-$599 and <$300) than 13 CAs, 4 CAs (13, 16, 17, and 19) have lower annual sales/improved acre; and 2 CAs (7 and 12) have an approximately equivalent amount.
PROXIMITY TO URBAN BUILT-UP AREAS (KM)	L L L L L L L L L L L L L L L L L L L	EA22 is closer to urban built-up areas (includes parts of St. Catharines and <1 km Welland) than all 19 CAs. The CAs range in distance from <1 km to <14 km from urban built-up areas offering a range of choice for site selection.
RURAL POPULATION DENSITY (PERSONS/KM^2)	G G G G G E G E E E G G E G G G E E G	EA22 has a greater rural population density (predominantly 20-40 persons/km^2 with some 0-19 and >40 persons/km^2 areas) than 12 CAs (1-5 inclusive, 7, 11, 12, 14-16 inclusive, and 19) and an approximately equivalent density to 7 CAs (6, 8-10 inclusive, 13, 16, and 17).
PUBLICLY OWNED LAND	G E G G E G G G G G G G G G G G G G G	Although EA22 has some publicly owned land within its boundaries, 2 CAs (2 and 5) contain publicly owned land; and 1 CA (3) appears to have publicly owned land immediately adjacent.
INDUSTRIALLY DESIGNATED LAND	G G G E G E E G G G G G E G G G G E G	Although EA22 contains some industrially designated land, 5 CAs (4, 6, 7, 13, and 18) contain industrially designated lands; and 3 CAs (12, 14, and 19) appear adjacent to industrially designated lands.

SUMMARY: EA22 was primarily excluded for hydrogeologic reasons (predominantly variable soil depth with portions <10 m deep and predominantly sandy soil with portions underlain by sand or bedrock). EA22 also offers poor atmospheric dispersion because it is affected by a lake breeze and an urban heat island. EA22 also includes parts of the City of St. Catharines. Although EA22 has some publicly owned land, 2 CAs (2 and 5) also contain publicly owned land. Although EA22 has some industrially designated lands, 5 CAs (4, 6, 7, 13, and 18) also contain industrially designated lands. EA22 does not have any other preferred characteristic which is not possessed by some CAs.

L = LESSER G = GREATER E = EQUIVALENT

EXCLUDED AREA 23 (EA23)

CHARACTERISTICS	CANDIDATE AREAS (CA) 1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	COMMENTS
DEPTH OF SILT/ CLAY SOILS (METRES)	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	EA23 has less soil depth (<10 m) than all CAs (predominantly 10-20 m for CAs 1, 2, and 4-13 inclusive and predominantly 20-30 m for CAs 3 and 14-19 inclusive). All CAs are preferable to EA23 hydrogeologically.
COMPLEXITY OF SOILS	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	EA23 has generally more complex soils with a sand or bedrock underlayer than CAs 1-3 inclusive, 5, 9-13 inclusive, 15, 18, and 19 which have uniform soils and CAs 4, 6-8 inclusive, 14, 16, and 17 which have locally intermixed soils. All CAs are preferable to EA23 hydrogeologically.
LAKE BREEZES	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	EA23 and all CAs are not affected by lake breezes. All 19 CAs are comparable to EA23 for atmospheric dispersion.
TOPOGRAPHIC INFLUENCE	E	E	E	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	EA23 has a topographic influence similar to CAs 1-3 inclusive. 16 CAs (4-19 inclusive) have no topographic influence and are preferable to EA23 for atmospheric dispersion.
URBAN HEAT ISLANDS	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	EA23 and all CAs are not affected by urban heat islands. All 19 CAs are comparable to EA23 for atmospheric dispersion.
DISTANCE FROM CATEGORY 1 (KM)	L	L	L	L	L	L	L	L	L	L	L	E	E	L	L	L	L	L	E	Although EA23 is generally closer (5-10 km) to category 1 waters than 16 CAs, 3 CAs (12, 13, and 19) are an equivalent distance from category 1.
TRAVEL TIME (MINUTES) FROM CENTROID	G	G	G	G	G	G	L	G	G	G	L	L	L	G	G	G	E	G	L	EA23 is generally farther from the centroid (45-60 min.) than 13 CAs (1-6 inclusive, 8-10 inclusive, 14-16 inclusive, and 18) and an equivalent distance to 1 CA (17).
TRAVEL TIME (MINUTES) FROM 400-SERIES HIGHWAYS	E	L	E	E	L	L	L	L	L	L	L	L	E	E	L	L	L	L	E	Although EA23 is generally closer (<10 min.) to 400-series highways than 13 CAs, 6 CAs (1, 3, 4, 13, 14, and 19) are as close to 400-series highways (<10 min.); and no CA is more than 30 min. distant.
SOIL CAPABILITY CLI CLASSES	L	L	L	L	L	L	L	G	L	G	L	G	G	L	L	L	G	G	G	EA23 has a lower class of soil (Class 1 and Class 4) as approximately half of its area is Class 4 than 12 CAs (1-7 inclusive, 9, 11, and 14-16 inclusive) which are predominantly Class 1. 12 CAs are preferable to EA23.

SPECIALTY AGRICULTURE	G G G G E G G G E G G G G G G G E G	EA23 has more specialty agriculture (concentrated) than 16 CAs and an equivalent amount to 3 CAs. All CAs are preferable or equivalent to EA23.
% TOWNSHIP IN FARMING	E E E G E E G L L G E G G G E G L L G	EA23 has a larger % township in farming (60-80%) than 8 CAs (4, 7, 10, 12-14 inclusive, and 19) and an approximately equivalent amount to 7 CAs (1-3 inclusive, 5, 6, 11, and 15).
CAPITAL VALUE PER ACRE ($)	G G G L G G G G G G G G G L G G G G G	EA23 has a higher capital value/acre ($6000- $9000) than 17 CAs (1-3 inclusive, 5 13 inclusive, and 15 19 inclusive).
ANNUAL SALES PER IMPROVED ACRE ($)	G G G G G G G G G G G G G G G G G G G	EA23 has greater annual sales/improved acre (>$900) than all 19 CAs.
PROXIMITY TO URBAN BUILT-UP AREAS (KM)	G E G G G L E L G G E G G G G L L G E	EA23 is located closer to an urban built-up area (<4 km St. Catharines) than 4 CAs (6, 8, 16, and 17). 11 CAs (1, 3, 4, 5, 9, 10, 12-15 inclusive, and 18) are somewhat closer to urban built-up areas, and 4 CAs (2, 7, 11, and 19) are an approximately equivalent distance. The CAs provide a range of options for site selection.
RURAL POPULATION DENSITY (PERSONS/KM^2)	G G G G G G G G G G G G G G G G G G G	EA23 has a greater rural population density (>40 persons/km^2) than all 19 CAs.
PUBLICLY OWNED LAND	E L E E L E E E E E E E E E E E E E	Two CAs (2 and 5) contain publicly owned land, and 1 CA (3) appears immediately adjacent to publicly owned land. EA23 has no publicly owned land similar to 17 CAs.
INDUSTRIALLY DESIGNATED LAND	G G G E G E E G G G G G E G G G G E G	Although EA23 contains some industrially designated land, 5 CAs (4, 6, 7, 13, and 18) contain industrially designated lands; and 3 CAs (12, 14, and 19) appear adjacent to industrially designated lands.

SUMMARY: EA23 was primarily excluded for hydrogeologic reasons (<10 m soil depth and underlain by sand or bedrock). EA23 has a topographic influence as well. EA23 has more specialty agriculture, a higher capital value/acre, greater annual sales/improved acre, and a greater rural population density than most CAs. Although EA23 contains some industrially designated lands, 5 CAs (4, 6, 7, 13, and 18) also contain industrially designated lands. EA23 has no other preferred characteristic that is not possessed by some CAs.

L = LESSER G = GREATER E = EQUIVALENT

E X C L U D E D A R E A 24 (EA24)

CHARACTERISTICS	CANDIDATE AREAS (CA) 1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	COMMENTS
DEPTH OF SILT/ CLAY SOILS (METRES)	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	EA24 has generally less soil depth (variable) than all CAs (predominantly 10-20 m for CAs 1, 2, and 4-13 inclusive and predominantly 20-30 m for CAs 3 and 14-19 inclusive). All CAs are preferable to EA24 hydrogeologically.
COMPLEXITY OF SOILS	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	EA24 has generally more complex soils (sandy) than CAs 1-3 inclusive, 5, 9-13 inclusive, 15, 18, and 19 which have uniform soils and CAs 4, 6, 7, 8, 14, 16, and 17 which have locally intermixed soils. All CAs are preferable to EA24 hydrogeologically.
LAKE BREEZES	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	EA24 is affected by lake breezes (2 and 5 km). All 19 CAs are preferable to EA24 for atmospheric dispersion.
TOPOGRAPHIC INFLUENCE	L	L	L	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	Although EA24 has no topographic influence, neither do CAs 4-19 inclusive. 16 CAs (4-19 inclusive) are comparable to EA24 for atmospheric dispersion.
URBAN HEAT ISLANDS	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	EA24 and all CAs are not affected by urban heat islands. All 19 CAs are comparable to EA24 for atmospheric dispersion.
DISTANCE FROM CATEGORY 1 (KM)	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	Although EA24 is closer (0-10 km) to category 1 waters than 19 CAs, 3 CAs (12, 13, and 19) are within 10 km of category 1.
TRAVEL TIME (MINUTES) FROM CENTROID	G	G	G	G	G	G	E	G	G	G	L	L	L	G	G	G	G	G	L	EA24 is generally farther from the centroid (45-75 min.) than 14 CAs (1-6 inclusive, 8-10 inclusive, and 14-18 inclusive) and an equivalent distance from the centroid as 1 CA (7).
TRAVEL TIME (MINUTES) FROM 400-SERIES HIGHWAYS	G	L	G	G	E	E	L	L	E	E	L	L	G	G	E	E	L	L	G	Although EA24 is generally closer (<10-20 min.) to 400-series highways than 7 CAs (2, 7, 8, 11, 12, 17, and 18), 6 CAs (1, 3, 4, 13, 14, and 19) are closer to 400-series highways; and 6 CAs (5, 6, 10, 11, 15, and 16) are an approximately equivalent distance.
SOIL CAPABILITY CLI CLASSES	L	L	L	L	L	L	L	G	L	G	L	G	G	L	L	L	L	L	E	EA24 has a lower class of soil (Class 2 and Class 3) than 14 CAs (1-7 inclusive, 9, 11, and 14-18 inclusive) and approximately equivalent classes of soil to 1 CA (19).

SPECIALTY AGRICULTURE	G G G G E G G G E G G G G G G G G E G	EA24 has more specialty agriculture (concentrated) than 16 CAs and an equivalent amount to 3 CAs. All CAs are preferable or equivalent to EA24.
% TOWNSHIP IN FARMING	L L L G L L L L L G L G G G L L L L G	Although EA24 has a lower % township in farming (60-80% and <40%) than 13 CAs, 6 CAs (4, 10, 12-14 inclusive, and 19) have a lower % township in farming.
CAPITAL VALUE PER ACRE ($)	G G G L G G G G G G G G G L G G G G G	EA24 has a higher capital value/acre ($6000-$9000 and >$9000) than 17 CAs (1-3 inclusive, 5-13 inclusive, and 15-19 inclusive).
ANNUAL SALES PER IMPROVED ACRE ($)	G G G G G G G G G G G G G G G G G G G	EA24 has greater annual sales/improved acre (>$900) than all 19 CAs.
PROXIMITY TO URBAN BUILT-UP AREAS (KM)	L L L L L L L L L L L L L L L L L L L	EA24 is closer to urban built-up areas (includes Niagara-on-the-Lake) than all 19 CAs. The CAs range in distance from <1 km to <14 km from urban built-up areas offering a range of choice for site selection.
RURAL POPULATION DENSITY (PERSONS/KM^2)	G G G G G G G G G G G G G G G G G G G	EA24 has a greater rural population density (>40 persons/km^2) than all 19 CAs.
PUBLICLY OWNED LAND	G E G G E G G G G G G G G G G G G G G	Although EA24 has publicly owned land within its boundaries, 2 CAs (2 and 5) contain publicly owned land; and 1 CA appears to have publicly owned land immediately adjacent.
INDUSTRIALLY DESIGNATED LAND	G G G E G E E G G G G G E G G G G E G	Although EA24 contains some industrially designated land, 5 CAs (4, 6, 7, 13, and 18) contain industrially designated lands; and 3 CAs (12, 14, and 19) appear adjacent to industrially designated lands.

SUMMARY: EA24 was primarily excluded for hydrogeologic reasons (variable soil depth and sandy soil). EA24 also offers poor atmospheric dispersion because it is affected by 2 and 5 km lake breezes. EA24 also includes the Town of Niagara-on-the-Lake. EA24 has more specialty agriculture, a higher capital value/acre, greater annual sales/improved acre, and a greater rural population density than most CAs. Although EA24 has some publicly owned land within its boundaries, 2 CAs (2 and 5) contain publicly owned land as well. Although EA24 has some industrially designated land, 5 CAs (4, 6, 7, 13, and 18) contain industrially designated lands. EA24 does not have any other preferred characteristic that is not possessed by some CAs.

L = LESSER G = GREATER E = EQUIVALENT

EXCLUDED AREA 25 (EA25)

CHARACTERISTICS	CANDIDATE AREAS (CA) 1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	COMMENTS
DEPTH OF SILT/ CLAY SOILS (METRES)	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	EA25 has less soil depth (<10 m) than all CAs (predominantly 10-20 m for CAs 1, 2, and 4-13 inclusive and predominantly 20-30 m for CAs 3 and 14-19 inclusive). All CAs are preferable to EA25 hydrogeologically.
COMPLEXITY OF SOILS	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	EA25 has more complex soils with a sand or bedrock underlayer than CAs 1-3 inclusive, 5, 9-13 inclusive, 15, 18, and 19 which have uniform soils and CAs 4, 6-8 inclusive, 14, 16, and 17 which have locally intermixed soils. All CAs are preferable to EA25 hydrogeologically.
LAKE BREEZES	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	EA25 is affected by lake breezes (2 and 5 km). All 19 CAs are preferable to EA25 for atmospheric dispersion.
TOPOGRAPHIC INFLUENCE	E	E	E	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	EA25 has a topographic influence similar to CAs 1-3 inclusive. 16 CAs (4-19 inclusive) have no topographic influence and are preferable to EA25 for atmospheric dispersion.
URBAN HEAT ISLANDS	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	EA25 and all CAs are not affected by urban heat islands. All 19 CAs are comparable to EA25 for atmospheric dispersion.
DISTANCE FROM CATEGORY 1 (KM)	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	Although EA25 is closer (0-5 km) to category 1 waters than all 19 CAs, 3 CAs (12, 13, and 19) are within 10 km of category 1.
TRAVEL TIME (MINUTES) FROM CENTROID	G	G	G	G	G	G	G	G	G	G	L	L	L	G	G	G	G	G	L	EA25 is farther from the centroid (<60-75 min.) than 15 CAs (1-10 inclusive and 14-18 inclusive).
TRAVEL TIME (MINUTES) FROM 400-SERIES HIGHWAYS	E	L	E	E	L	L	L	L	L	L	L	L	E	E	L	L	L	L	E	Although EA25 is generally closer (<10 min.) to 400-series highways than 13 CAs, 6 CAs (1, 3, 4, 13, 14, and 19) are as close to 400-series highways (<10 min.); and no CA is more than 30 min. distant.
SOIL CAPABILITY CLI CLASSES	L	L	L	L	L	L	L	L	L	L	L	G	G	L	L	L	L	L	L	EA25 has a lower class of soil (Class 2 and Class 4) than 17 CAs (1-11 inclusive and 14-19 inclusive).

SPECIALTY AGRICULTURE	G G G G E G G G E G G G G G G G G E G	EA25 has more specialty agriculture (concentrated) than 16 CAs and an equivalent amount to 3 CAs. All CAs are preferable or equivalent to EA25.
% TOWNSHIP IN FARMING	E E E G E E G L L G E G G G E G L L G	EA25 has a larger % township in farming (60-80%) than 8 CAs (4, 7, 10, 12-14 inclusive, and 19) and an approximately equivalent amount to 7 CAs (1-3 inclusive, 5, 6, 11, and 15).
CAPITAL VALUE PER ACRE ($)	G G G L G G G G G G G G G L G G G G G	EA25 has a higher capital value/acre ($6,000-$9,000) than 17 CAs (1-3 inclusive, 5-13 inclusive, and 15-19 inclusive).
ANNUAL SALES PER IMPROVED ACRE ($)	G G G G G G G G G G G G G G G G G G G	EA25 has higher annual sales/improved acre (>$900) than all 19 CAs.
PROXIMITY TO URBAN BUILT-UP AREAS (KM)	G G G G G G G L G G G G G G G L L G G	EA25 is located somewhat farther from an urban built-up area (<6 km Niagara Falls) than 16 CAs (1-7 inclusive, 9-15 inclusive, 18, and 19). EA25 is closer to an urban built-up area than 3 CAs (8, 16, and 17). The CAs provide a range of options for site selection.
RURAL POPULATION DENSITY (PERSONS/KM^2)	G G G G G G G G G G G G G G G G G G G	EA25 has a greater rural population density (>40 persons/km^2) than all 19 CAs.
PUBLICLY OWNED LAND	E L E E L E E E E E E E E E E E E E E	EA25 has no publicly owned land similar to 17 CAs. 2 CAs (2 and 5) contain publicly owned land, and 1 CA (3) appears immediately adjacent to publicly owned land.
INDUSTRIALLY DESIGNATED LAND	E E E L E L L E E E E E L E E E E L E	EA25 has no industrially designated lands similar to 14 CAs. 5 CAs (4, 6, 7, 13, and 18) contain industrially designated lands, and 3 CAs (12, 14, and 19) appear adjacent to industrially designated lands.

SUMMARY: EA25 was primarily excluded for hydrogeologic reasons (<10 m soil depth and a sand or bedrock underlayer). EA25 also has poor atmospheric dispersion with its topographic influence and lake breezes (2 and 5 km). EA25 has more specialty agriculture, a larger % township in farming, a higher capital value/acre, higher annual sales/improved acre, and a greater rural population density than most CAs. EA25 has no preferred characteristic that is not possessed by some CAs.

L = LESSER G = GREATER E = EQUIVALENT

E X C L U D E D A R E A 26 (EA26)

CHARACTERISTICS	CANDIDATE AREAS (CA) 1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	COMMENTS
DEPTH OF SILT/ CLAY SOILS (METRES)	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	EA26 has less soil depth (<10 m) than all CAs (predominantly 10-20 m for CAs 1, 2, and 4-13 inclusive and predominantly 20-30 m for CAs 3 and 14-19 inclusive). All CAs are preferable to EA26 hydrogeologically.
COMPLEXITY OF SOILS	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	EA26 has more complex soils with a sand or bedrock underlayer than CAs 1-3 inclusive, 5, 9-13 inclusive, 15, 18, and 19 which have uniform soils and CAs 4, 6-8 inclusive, 14, 16, and 17 which have locally intermixed soils. All CAs are preferable to EA26 hydrogeologically.
LAKE BREEZES	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	EA26 is affected by lake breezes (2 and 5 km). All 19 CAs are preferable to EA26 for atmospheric dispersion.
TOPOGRAPHIC INFLUENCE	L	L	L	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	Although EA26 has no topographic influence, neither do CAs 4-19 inclusive. 16 CAs (4-19 inclusive) are comparable to EA26 for atmospheric dispersion.
URBAN HEAT ISLANDS	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	EA26 and all CAs are not affected by urban heat islands. All 19 CAs are comparable to EA26 for atmospheric dispersion.
DISTANCE FROM CATEGORY 1 (KM)	L	L	L	L	L	L	L	L	L	L	L	E	E	L	L	L	L	L	E	Although EA26 is generally closer (5-10 km) to category 1 waters than 16 CAs, 3 CAs (12, 13 and 19) are an equivalent distance from category 1.
TRAVEL TIME (MINUTES) FROM CENTROID	G	G	G	G	G	G	G	G	G	L	L	E	G	G	G	G	G	E		EA 26 is generally farther from the centroid (60-75 min.) than 15 CAs (1-10 inclusive and 14-18 inclusive) and equally as far as 2 CAs (13 and 19).
TRAVEL TIME (MINUTES) FROM 400-SERIES HIGHWAYS	E	L	E	E	L	L	L	L	L	L	L	E	E	L	L	L	L	E		Although EA26 is generally closer (<10 min.) to 400-series highways than 13 CAs, 6 CAs (1, 3, 4, 13, 14, and 19) are as close to 400-series highways (<10 min.); and no CA is more than 30 min. distant.
SOIL CAPABILITY CLI CLASSES	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	EA26 has a lower class of soil (Class 3) than all 19 CAs.

SPECIALTY AGRICULTURE	E E E E L L E L L L L E E E E L E L E	Although EA26 has limited specialty agriculture, 11 CAs (1-4 inclusive, 7, 12-15 inclusive, 17, and 19) also have limited specialty agriculture.
% TOWNSHIP IN FARMING	L L L E L L L L L L L L E L L L L L E	Although EA26 has a lower % township in farming (<40%) than 16 CAs, 3 CAs (4, 13, and 19) also have <40% township in farming. 4 CAs (7, 14, 16, and 18) also have portions of <40% township farming activity, and 7 CAs (1, 2, 3, 9, 10, 12, and 18) have portions of 40-59% township in farming.
CAPITAL VALUE PER ACRE ($)	L L L L L L L E L L E E L L L L E L E	Although EA26 has a lower capital value/acre (<$3000) than 14 CAs, 5 CAs (8, 11, 12, 17, and 19) have an equivalent capital value/acre.
ANNUAL SALES PER IMPROVED ACRE ($)	L L L L L L L L L L L L L L L L L L L	Although EA26 has lower annual sales/improved acre (<$300) than all CAs, 6 CAs (7, 12, 13, 16, 17, and 19) have predominantly <$300 annual sales/improved acre.
PROXIMITY TO URBAN BUILT-UP AREAS (KM)	G G G G G G G L G G G G G G G G L G G	EA26 is somewhat farther from urban built-up areas (<8 km Niagara Falls and Fort Erie) than most CAs. The CAs range in distance from <1 to <14 km from urban built-up areas offering a range of choice for site selection.
RURAL POPULATION DENSITY (PERSONS/KM^2)	L L L G L L E L L G L L G G L G L L G	EA26 has a greater rural population density (0-19 and >40 persons/km^2) than 6 CAs (4, 10, 13, 14, 16, and 19) and an approximately equivalent amount to 1 CA (7).
PUBLICLY OWNED LAND	E L E E L E E E E E E E E E E E E E E	EA26 has no publicly owned land similar to 17 CAs. 2 CAs (2 and 5) contain publicly owned land, and 1 CA (3) appears to have publicly owned land immediately adjacent.
INDUSTRIALLY DESIGNATED LAND	G G G E G E E G G G G G E G G G G E G	Although EA26 contains some industrially designated land, 5 CAs (4, 6, 7, 13, and 18) contain industrially designated lands; and 3 CAs (12, 14, and 19) appear adjacent to industrially designated lands.

SUMMARY: EA26 was primarily excluded for hydrogeologic reasons (<10 m soil depth and a sand or bedrock underlayer). Also, EA26 is affected by lake breezes(2 and 5 km) offering poor atmospheric dispersion. Although EA26 contains some industrially designated land, 5 CAs (4, 6, 7, 13, and 18) contain industrially designated land as well. EA26 has no other preferred characteristic that is not possessed by some CAs.

L = LESSER G = GREATER E = EQUIVALENT

EXCLUDED AREA 27 (EA27)

CHARACTERISTICS	CANDIDATE AREAS (CA) 1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	COMMENTS
DEPTH OF SILT/ CLAY SOILS (METRES)	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	EA27 has less soil depth (<10 m) than all CAs (predominantly 10-20 m for CAs 1, 2, and 4-13 inclusive and predominantly 20-30 m for CAs 3 and 14-19 inclusive). All CAs are preferable to EA27 hydrogeologically.
COMPLEXITY OF SOILS	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	EA27 has more complex soils with a sand or bedrock underlayer than CAs 1-3 inclusive, 5, 9-13 inclusive, 15, 18, and 19 which have uniform soils and CAs 4, 6-8 inclusive, 14, 16, and 17 which have locally intermixed soils. All CAs are preferable to EA27 hydrogeologically.
LAKE BREEZES	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	EA27 is affected by lake breezes (2 and 5 km). All 19 CAs are preferable to EA27 for atmospheric dispersion.
TOPOGRAPHIC INFLUENCE	L	L	L	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	Although EA27 has no topographic influence, neither do CAs 4-19 inclusive. 16 CAs (4-19 inclusive) are comparable to EA27 for atmospheric dispersion.
URBAN HEAT ISLANDS	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	EA27 and all CAs are not affected by urban heat islands. All 19 CAs are comparable to EA27 for atmospheric dispersion.
DISTANCE FROM CATEGORY 1 (KM)	L	L	L	L	L	L	L	L	L	L	L	E	E	L	L	L	L	L	E	Although EA27 is generally closer (5-10 km) to category 1 waters than 16 CAs, 3 CAs (12, 13, and 19) are an equivalent distance from category 1.
TRAVEL TIME (MINUTES) FROM CENTROID	G	G	G	G	G	G	G	G	G	G	L	L	G	G	G	G	G	G	G	EA27 is generally farther from the centroid (75 min.) than 17 CAs (1-10 inclusive and 13-19 inclusive).
TRAVEL TIME (MINUTES) FROM 400-SERIES HIGHWAYS	E	L	E	E	L	L	L	L	L	L	L	L	E	E	L	L	L	L	E	Although EA27 is generally closer (<10 min.) to 400-series highways than 13 CAs, 6 CAs (1, 3, 4, 13, 14, and 19) are as close to 400-series highways (<10 min.); and no CA is more than 30 min. distant.
SOIL CAPABILITY CLI CLASSES	L	L	L	L	L	L	L	E	L	E	L	G	G	L	L	L	E	E	G	EA27 has a lower class of soil (predominantly Class 2) than 12 CAs (1-7 inclusive, 9, 11, and 14-16 inclusive) and approximately equivalent classes of soil to 4 CAs (8, 10, 17, and 18).

SPECIALTY AGRICULTURE	E E E E L L E L L L L E E E E L E L E	Although EA27 has limited specialty agriculture, 11 CAs (1-4 inclusive, 7, 12-15 inclusive, 17, and 19) also have limited specialty agriculture.
% TOWNSHIP IN FARMING	L L L E L L L L L L L L E L L L L L E	Although EA27 has a lower % township in farming (<40%) than 16 CAs, 3 CAs (4, 13, and 19) also have <40% township in farming. 4 CAs (7, 14, 16, and 18) also have portions of <40% township farming activity, and 7 CAs (1, 2, 3, 9, 10, 12, and 18) have portions of 40-59% township in farming.
CAPITAL VALUE PER ACRE ($)	L L L L L L L E L L E E L L L L E L E	Although EA27 has a lower capital value/acre (<$3000) than 14 CAs, 5 CAs (8, 11, 12, 17, and 19) have an equivalent capital value/acre.
ANNUAL SALES PER IMPROVED ACRE ($)	L L L L L L L L L L L L L L L L L L L	Although EA27 has lower annual sales/improved acre (<$300) than all CAs, 6 CAs (7, 12, 13, 16, 17, and 19) have predominantly <$300 annual sales/improved acre.
PROXIMITY TO URBAN BUILT-UP AREAS (KM)	E L L E E L L L L L L L E E L L L E L	Although EA27 is closer to an urban built-up area (<1 km Fort Erie) than CAs 2, 3, 6-12 inclusive, 15-17 inclusive, and 19, CAs 1, 4, 5, 13, 14, and 18 are also <1 km from urban built-up areas. 6 CAs are a comparable distance from population centers, while 13 CAs are more remote offering a range of options for site selection.
RURAL POPULATION DENSITY (PERSONS/KM^2)	G G G G G G G G G G G G G G G G G G G	EA27 has a greater rural population density (>40 persons/km^2) than all 19 CAs.
PUBLICLY OWNED LAND	E L E E L E E E E E E E E E E E E E	EA27 has no publicly owned land similar to 17 CAs. 2 CAs (2 and 5) contain publicly owned land, and 1 CA (3) appears immediately adjacent to publicly owned land.
INDUSTRIALLY DESIGNATED LAND	E E E L E L L E E E E E L E E E E L E	EA27 has no industrially designated lands similar to 14 CAs. 5 CAs (4, 6, 7, 13, and 18) contain industrially designated lands, and 3 CAs (12, 14, and 19) appear adjacent to industrially designated lands.

SUMMARY: EA27 was primarily excluded for hydrogeologic reasons (<10 m soil depth and a sand or bedrock underlayer). EA27 is also affected by lake breezes (2 and 5 km) offering poor atmospheric dispersion. Although EA27 has lower annual sales/improved acre (<$300) than all CAs, 6 CAs (7, 12, 13, 16, 17, and 19) have predominantly <$300 sales. EA27 has no preferred characteristic that is not possessed by some CAs.

L = LESSER G = GREATER E = EQUIVALENT

EXCLUDED AREA 28 (EA28)

CHARACTERISTICS	CANDIDATE AREAS (CA) 1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	COMMENTS
DEPTH OF SILT/ CLAY SOILS (METRES)	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	EA28 has greater soil depth (>30 m) than all 19 CAs.
COMPLEXITY OF SOILS	E	E	E	L	E	L	L	L	E	E	E	E	E	L	E	L	L	E	E	Although EA28 has less complex soils (uniform) than 7 CAs, 12 CAs (1-3 inclusive, 5, 9-13 inclusive, 15, 18, and 19) have similar soils.
LAKE BREEZES	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	EA28 is affected by a lake breeze (5 km). All 19 CAs are preferable to EA28 for atmospheric dispersion.
TOPOGRAPHIC INFLUENCE	E	E	E	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	EA28 has a topographic influence similar to CAs 1-3 inclusive. 16 CAs (4-19 inclusive) have no topographic influence and are preferable to EA28 for atmospheric dispersion.
URBAN HEAT ISLANDS	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	EA28 is affected by an urban heat island. All 19 CAs are preferable to EA28 for atmospheric dispersion.
DISTANCE FROM CATEGORY 1 (KM)	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	Although EA28 is closer (0-10 km) to category 1 waters than all 19 CAs, 3 CAs (12, 13, and 19) are within 10 km of category 1.
TRAVEL TIME (MINUTES) FROM CENTROID	G	G	G	G	G	G	L	G	G	G	L	L	L	G	G	G	E	G	L	EA28 is generally farther from the centroid (45-60 min.) than 13 CAs (1-6 inclusive, 8-10 inclusive, 14-16 inclusive, and 18) and an equivalent distance to 1 CA (17).
TRAVEL TIME (MINUTES) FROM 400-SERIES HIGHWAYS	E	L	E	E	L	L	L	L	L	L	L	L	E	E	L	L	L	L	E	Although EA28 is generally closer (<10 min.) to 400-series highways than 13 CAs, 6 CAs (1, 3, 4, 13, 14, and 19) are as close to 400-series highways (<10 min.); and no CA is more than 30 min. distant.
SOIL CAPABILITY CLI CLASSES	L	L	L	L	L	L	L	L	L	L	L	G	G	L	L	L	L	L	G	EA28 has a lower class of soil (Class 2, Class 1, and Class 3) than 16 CAs (1-11 inclusive and 14-18 inclusive).

SPECIALTY AGRICULTURE	G G G G E G G G E G G G G G G G G E G	EA28 has more specialty agriculture (concentrated) than 16 CAs and an approximately similar amount to 3 CAs. All CAs are preferable to EA28 which has concentrated specialty agriculture throughout the entire excluded area.
% TOWNSHIP IN FARMING	L L L G L L L L L L L L G G L L L L G	Although EA28 has a lower % township in farming (predominantly <40% and some 60-80%) than 15 CAs, 4 CAs (4, 13, 14, and 19) have a lower % township in farming than EA28.
CAPITAL VALUE PER ACRE ($)	G G G L G G G G G G G G G L G G G G G	EA28 has a higher capital value/acre (predominantly >$9000 and some $6000-$9000) than 17 CAs (1-3 inclusive, 5-13 inclusive, and 15-19 inclusive).
ANNUAL SALES PER IMPROVED ACRE ($)	G G G G G G G G G G G G G G G G G G G	EA28 has greater annual sales/improved acre (>$900) than all 19 CAs.
PROXIMITY TO URBAN BUILT-UP AREAS (KM)	E L L E E L L L L L L L E E L L L E L	EA28 is closer to an urban built-up area (<1 km St. Catharines) than CAs 2, 3, 6-12 inclusive, 15-17 inclusive, and 19. CAs 1, 4, 5, 14, and 18 are also <1 km from urban built-up areas. 6 CAs are a comparable distance from population centres, while 13 CAs are more remote offering a range of options for site selection.
RURAL POPULATION DENSITY (PERSONS/KM^2)	G G G G G G G G G G G G G G G G G G G	EA28 has a greater rural population density (>40 persons/km^2) than all 19 CAs.
PUBLICLY OWNED LAND	G E G G E G G G G G G G G G G G G G G	Although EA28 has some publicly owned land within its boundaries, 2 CAs (2 and 5) contain publicly owned land; and 1 CA (3) appears to have publicly owned land immediately adjacent.
INDUSTRIALLY DESIGNATED LAND	G G G E G E E G G G G G E G G G G E G	Although EA28 contains some industrially designated land, 5 CAs (4, 6, 7, 13, and 18) contain industrially designated lands; and 3 CAs (12, 14, and 19) appear adjacent to industrially designated lands.

SUMMARY: EA28 was primarily excluded for its poor atmospheric dispersion (5 km lake breeze, topographic influence, and urban heat island) and its concentrated specialty agriculture (throughout entire excluded area). EA28 also has a higher capital value/acre (predominantly >$9000 and some $6000-$9000) and greater annual sales/improved acre (>$900) than most CAs. Although EA28 has some publicly owned land, 2 CAs (2 and 5) contain publicly owned land as well. Although EA28 contains some industrially designated lands, 5 CAs (4, 6, 7, 13, and 18) also contain industrially designated lands. EA28 has no preferred characteristic that is not possessed by some CAs.

L = LESSER G = GREATER E = EQUIVALENT

EXCLUDED AREA 29 (EA29)

CHARACTERISTICS	CANDIDATE AREAS (CA) 1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	COMMENTS
DEPTH OF SILT/ CLAY SOILS (METRES)	E	E	L	E	E	E	E	L	E	E	E	E	E	L	L	L	L	L	L	EA29 has less soil depth (10-20 m) than 8 CAs (3, 8, and 14-19 inclusive) and generally similar soil depth to the remainder of CAs (1, 2, 4-7 inclusive, and 9-13 inclusive).
COMPLEXITY OF SOILS	E	E	E	L	E	L	L	L	E	E	E	E	E	L	E	L	L	E	E	Although EA29 has less complex soils (uniform) than 7 CAs, 12 CAs (1-3 inclusive, 5, 9-13 inclusive, 15, 18, and 19) have similar soils.
LAKE BREEZES	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	EA29 is affected by lake breezes (2 and 5 km). All 19 CAs are preferable to EA29 for atmospheric dispersion.
TOPOGRAPHIC INFLUENCE	E	E	E	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	EA29 has a topographic influence similar to CAs 1-3 inclusive. 16 CAs (4-19 inclusive) have no topographic influence and are preferable to EA29 for atmospheric dispersion.
URBAN HEAT ISLANDS	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	EA29 and all 19 CAs are not affected by urban heat islands. All 19 CAs are comparable to EA29 for atmospheric dispersion.
DISTANCE FROM CATEGORY 1 (KM)	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	Although EA29 is closer (0-10 km) to category 1 waters than all 19 CAs, 3 CAs (12, 13, and 19) are within 10 km of category 1.
TRAVEL TIME (MINUTES) FROM CENTROID	G	G	G	G	G	G	E	G	G	G	L	L	L	G	G	G	G	G	L	EA29 is generally farther from the centroid (45-75 min.) than 14 CAs (1-6 inclusive, 8-10 inclusive, and 14-18 inclusive) and an equivalent distance from the centroid as 1 CA(7).
TRAVEL TIME (MINUTES) FROM 400-SERIES HIGHWAYS	G	L	G	G	E	E	L	L	E	E	L	L	G	G	E	E	L	L	G	Although EA29 is generally closer (<10-20 min.) to 400-series highways than 7 CAs (2, 7, 8, 11, 12, 17, and 18), 6 CAs (1, 3, 4, 13, 14, and 19) are closer to 400-series highways; and 6 CAs (5, 6, 10, 11, 15, and 16) are an approximately equivalent distance.
SOIL CAPABILITY CLI CLASSES	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	EA29 has generally lower classes of soil (Class 4 and Class 3 with areas of Class 1 and Class 2) than all 19 CAs.

SPECIALTY AGRICULTURE	G G G G E G G G E G G G G G G G G E G	EA29 has more specialty agriculture (concentrated) than 16 CAs and an approximately similar amount to 3 CAs. All CAs are preferable to EA29 which has concentrated specialty agriculture throughout the entire excluded area.
% TOWNSHIP IN FARMING	E E E G E E G L L G E G G G E G L L G	EA29 has a lower % township in farming (60-80%) than 8 CAs (4, 7, 10, 12-14 inclusive, and 19) and an approximately equivalent amount to 7 CAs (1-3 inclusive, 5, 6, 11, and 15).
CAPITAL VALUE PER ACRE ($)	G G G L G G G G G G G G G L G G G G G	EA29 has a higher capital value/acre ($6000-$9000) than 17 CAs (1-3 inclusive, 5-13 inclusive, and 15-19 inclusive).
ANNUAL SALES PER IMPROVED ACRE ($)	G G G G G G G G G G G G G G G G G G G	EA29 has greater annual sales/improved acre (>$900) than all 19 CAs.
PROXIMITY TO URBAN BUILT-UP AREAS (KM)	E L L E E L L L L L L L E E L L L E L	EA29 is closer to urban built-up areas (<1 km Niagara-on-the-Lake and St. Catharines) than CAs 2, 3, 6-12 inclusive, 15-17 inclusive, and 19. CAs 1, 4, 5, 13, 14 and 18 are also <1 km from urban built-up areas. 6 CAs are a comparable distance from population centers, while 13 CAs are more remote offering a range of options for site selection.
RURAL POPULATION DENSITY (PERSONS/KM^2)	G G G G G G G G G G G G G G G G G G G	EA29 has a greater rural population density (>40 persons/km^2) than all 19 CAs.
PUBLICLY OWNED LAND	G E G G E G G G G G G G G G G G G G G	Although EA29 has some publicly owned land within its boundaries, 2 CAs (2 and 5) contain publicly owned land; and 1 CA (3) appears to have publicly owned land immediately adjacent.
INDUSTRIALLY DESIGNATED LAND	G G G E G E E G G G G E G G G G E G	Although EA29 contains some industrially designated land, 5 CAs (4, 6, 7, 13, and 18) contain industrially designated lands; and 3 CAs (12, 14, and 19) appear adjacent to industrially designated lands.

SUMMARY: EA29 was primarily excluded for its poor atmospheric dispersion (2 and 5 km lake breeze and topographic influence) and its concentrated specialty agriculture (throughout entire excluded area). EA29 also has a higher capital value/acre and greater annual sales/improved acre than most CAs. Although EA29 has some publicly owned land, 2 CAs (2 and 5) contain publicly owned land as well. Although EA29 has some industrially designated land, 5 CAs (4, 6, 7, 13, and 18) also contain industrially designated lands. EA29 has no preferred characteristic that is not possessed by some CAs.

L = LESSER G = GREATER E = EQUIVALENT

EXCLUDED AREA 30 (EA30)

CHARACTERISTICS	CANDIDATE AREAS (CA) 1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	COMMENTS
DEPTH OF SILT/ CLAY SOILS (METRES)	E	E	L	E	E	E	E	L	E	E	E	E	E	L	L	L	L	L	L	EA30 has less soil depth (10-20 m) than 8 CAs (3, 8, and 14-19 inclusive) and generally similar soil depth to the remainder of CAs (1, 2, 4-7 inclusive, and 9-13 inclusive).
COMPLEXITY OF SOILS	E	E	E	L	E	L	L	L	E	E	E	E	E	L	E	L	L	E	E	Although EA30 has less complex soils (uniform) than 7 CAs, 12 CAs (1-3 inclusive, 5, 9-13 inclusive, 15, 18, and 19) have similar soils.
LAKE BREEZES	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	EA30 is affected by lake breezes (2 and 5 km). All 19 CAs are preferable to EA30 for atmospheric dispersion.
TOPOGRAPHIC INFLUENCE	L	L	L	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	Although EA30 has no topographic influence, neither do CAs 4-19 inclusive. 16 CAs (4-19 inclusive) are comparable to EA30 for atmospheric dispersion.
URBAN HEAT ISLANDS	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	EA30 and all CAs are not affected by urban heat islands. All 19 CAs are comparable to EA30 for atmospheric dispersion.
DISTANCE FROM CATEGORY 1 (KM)	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	Although EA30 is closer (0-5 km) to category 1 waters than all 19 CAs, 3 CAs (12, 13, and 19) are within 10 km of category 1.
TRAVEL TIME (MINUTES) FROM CENTROID	G	G	G	G	G	G	G	G	G	L	L	G	E	G	G	G	G	G	E	EA30 is generally farther from the centroid (60-75 min.) than 15 CAs (1-10 inclusive and 14-18 inclusive) and equally as far as 2 CAs (13 and 19).
TRAVEL TIME (MINUTES) FROM 400-SERIES HIGHWAYS	E	L	E	E	L	L	L	L	L	L	L	L	E	E	L	L	L	L	E	Although EA30 is generally closer (<10 min.) to 400-series highways than 13 CAs, 6 CAs (1, 3, 4, 13, 14, and 19) are as close to 400-series highways (<10 min.); and no CA is more than 30 min. distant.
SOIL CAPABILITY CLI CLASSES	L	L	L	L	L	L	L	L	L	L	L	E	E	L	L	L	L	L	L	EA30 has a lower class of soil (predominantly Class 3 with an area of Class 2) than 17 CAs (1-11 inclusive and 14-19 inclusive).

SPECIALTY AGRICULTURE	E E E E L L E L L L L E E E E L E L E	Although EA30 has limited specialty agriculture, 11 CAs (1-4 inclusive, 7, 12-15 inclusive, 17, and 19) also have limited specialty agriculture.
% TOWNSHIP IN FARMING	L L L E L L L L L L L L E L L L L L E	Although EA30 has a lower % township in farming (<40%) than 16 CAs, 3 CAs (4, 13, and 19) also have <40% township in farming. CAs (7, 14, 16, and 18) also have portions of <40% township farming activity, and 7 CAs (1, 2, 3, 9, 10, 12, and 18) have portions of 40-59% township in farming.
CAPITAL VALUE PER ACRE ($)	L L L L L L L E L L E E L L L L E L E	Although EA30 has a lower capital value/acre (<$3000) than 14 CAs, 5 CAs (8, 11, 12, 17, and 19) have an equivalent capital value/acre.
ANNUAL SALES PER IMPROVED ACRE ($)	L L L L L L L L L L L L L L L L L L L	Although EA30 has lower annual sales/improved acre (<$300) than all CAs, 6 CAs (7, 12, 13, 16, 17, and 19) have predominantly <$300 annual sales/improved acre.
PROXIMITY TO URBAN BUILT-UP AREAS (KM)	E L L E E L L L L L L L E E L L L E L	Although EA30 is closer to an urban built-up area (<1 km Niagara Falls) than CAs 2, 3, 6-12 inclusive, 15-17 inclusive, and 19, CAs 1, 4, 5, 13, 14, and 18 are also <1 km from urban built-up areas. 6 CAs are a comparable distance from population centres, while 13 CAs are more remote offering a range of options for site selection.
RURAL POPULATION DENSITY (PERSONS/km^2)	L L L E L L L L L L L L L L L E L L L	Although EA30 has a lower rural population density (0-19 persons/km^2) than the majority of CAs, there are 2 CAs (4 and 16) with the same rural population density (0-19 persons/km^2); and there are 6 CAs (7, 10, 13, 14, 16, and 19) with large portions of 0-19 persons/km^2 densities.
PUBLICLY OWNED LAND	E L E E L E E E E E E E E E E E E E E	EA30 has no publicly owned land similar to 17 CAs. 2 CAs (2 and 5) contain publicly owned land, and 1 CA (3) appears immediately adjacent to publicly owned land.
INDUSTRIALLY DESIGNATED LAND	G G G E G E E G G G G G E G G G G E G	Although EA30 contains industrially designated land, 5 CAs (4, 6, 7, 13, and 18) contain industrially designated lands; and 3 CAs (12, 14, and 19) appear adjacent to industrially designated lands.

SUMMARY: EA30 was primarily excluded for its poor atmospheric dispersion (2 and 5 km lake breezes). Although EA30 has a lower % township in farming, a lower capital value/acre, and lower annual sales/improved acre than most CAs and contains industrially designated lands, there are a number of CAs which have similar characteristics. EA30 does not possess any other preferred characteristic that is not possessed by some CAs.

L = LESSER G = GREATER E = EQUIVALENT

EXCLUDED AREA 31 (EA31)

CHARACTERISTICS	CANDIDATE AREAS (CAs) 1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	COMMENTS
DEPTH OF SILT/ CLAY SOILS (METRES)	E	E	L	E	E	E	E	L	E	E	E	E	E	L	L	L	L	L	L	EA31 has less soil depth (10-20 m) than 8 CAs (3, 8, and 14-19 inclusive) and generally similar soil depth to the remainder of CAs (1, 2, 4-7 inclusive, and 9-13 inclusive).
COMPLEXITY OF SOILS	E	E	E	L	E	L	L	L	E	E	E	E	E	L	E	L	L	E	E	Although EA31 has less complex soils (uniform) than 7 CAs, 12 CAs (1-3 inclusive, 5, 9-13 inclusive, 15, 18, and 19) have similar soils.
LAKE BREEZES	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	EA31 is affected by lake breezes (2 and 5 km). All 19 CAs are preferable to EA31 for atmospheric dispersion.
TOPOGRAPHIC INFLUENCE	L	L	L	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	Although EA31 has no topographic influence, neither do CAs 4-19 inclusive. 16 CAs (4-19 inclusive) are comparable to EA31 for atmospheric dispersion.
URBAN HEAT ISLANDS	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	EA31 and all CAs are not affected by urban heat islands. All 19 CAs are comparable to EA31 for atmospheric dispersion.
DISTANCE FROM CATEGORY 1 (KM)	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	Although EA31 is closer (0-10 km) to category 1 waters than all 19 CAs, 3 CAs (12, 13, and 19) are within 10 km of category 1.
TRAVEL TIME (MINUTES) FROM CENTROID	G	G	G	G	G	G	G	G	G	G	L	L	E	G	G	G	G	G	E	EA31 is generally farther from the centroid (60-75 min.) than 15 CAs (1-10 inclusive and 14-18 inclusive) and equally as far as 2 CAs (13 and 19).
TRAVEL TIME (MINUTES) FROM 400-SERIES HIGHWAYS	E	L	E	E	L	L	L	L	L	L	L	L	E	E	L	L	L	L	E	Although EA31 is generally closer (<10 min.) to 400-series highways than 13 CAs, 6 CAs (1, 3, 4, 13, 14, and 19) are as close to 400-series highways (<10 min.); and no CA is more than 30 min. distant.
SOIL CAPABILITY CLI CLASSES	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	EA31 has a lower class of soil (Class 3) than all 19 CAs.

SPECIALTY AGRICULTURE	E E E E L L E L L L L E E E E L E L E	Although EA31 has limited specialty agriculture, 11 CAs (1-4 inclusive, 7, 12-15 inclusive, 17, and 19) also have limited specialty agriculture.
% TOWNSHIP IN FARMING	L L L E L L L L L L L L E L L L L L E	Although EA31 has a lower % township in farming (<40%) than 16 CAs, 3 CAs (4, 13, and 19) also have <40% township in farming. 4 CAs (7, 14, 16, and 18) also have portions of <40% township farming activity, and 7 CAs (1, 2, 3, 9, 10, 12, and 18) have portions of 40-59% township in farming.
CAPITAL VALUE PER ACRE ($)	L L L L L L L E L L E E L L L L E L E	Although EA31 has a lower capital value/acre ($<3000) than 14 CAs, 5 CAs (8, 11, 12, 17, and 19) have an equivalent capital value/acre.
ANNUAL SALES PER IMPROVED ACRE ($)	L L L L L L L L L L L L L L L L L L L	Although EA31 has lower annual sales/improved acre (<$300) than all CAs, 6 CAs (7, 12, 13, 16, 17, and 19) have predominantly <$300 annual sales/improved acre.
PROXIMITY TO URBAN BUILT-UP AREAS (KM)	G E G G G L E L G G E G G G G L L G E	EA31 is located closer to an urban built-up area (<4 km Niagara Falls) than 4 CAs (6, 8, 16, and 17). 11 CAs (1, 3, 4, 5, 9, 10, 12-15 inclusive, and 18) are somewhat closer to urban built-up areas, and 4 CAs (2, 7, 11, and 19) are an approximately equivalent distance.
RURAL POPULATION DENSITY (PERSONS/KM^2)	L L L E L L L L L L L L L L L E L L L	Although EA31 has a lower rural population density (0-19 persons/km^2) than the majority of CAs, there are 2 CAs (4 and 16) with the same rural population density (0-19 persons/km^2); and there are 6 CAs (7, 10, 13, 14, 16, and 19) with large portions of 0-19 persons/km^2 densities.
PUBLICLY OWNED LAND	E L E E L E E E E E E E E E E E E E E	EA31 has no publicly owned land similar to 17 CAs. 2 CAs (2 and 5) contain publicly owned land, and 1 CA (3) appears immediately adjacent to publicly owned land.
INDUSTRIALLY DESIGNATED LAND	E E E L E L L E E E E E L E E E E L E	EA31 has no industrially designated lands similar to 14 CAs. 5 CAs (4, 6, 7, 13, and 18) contain industrially designated lands, and 3 CAs (12, 14, and 19) appear adjacent to industrially designated lands.

SUMMARY: EA31 was primarily excluded for its poor atmospheric dispersion (2 and 5 km lake breezes). Although EA31 has a lower % township in farming, a lower capital value/acre, and lower annual sales/improved acre than most CAs and contains industrially designated lands, there are a number of CAs which have similar characteristics. EA31 does not possess any other preferred characteristic that is not possessed by some CAs.

L = LESSER G = GREATER E = EQUIVALENT

EXCLUDED AREA 32 (EA32)

CHARACTERISTICS	CANDIDATE AREAS (CAs) 1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	COMMENTS
DEPTH OF SILT/ CLAY SOILS (METRES)	E	E	L	E	E	E	E	L	E	E	E	E	E	L	L	L	L	L	L	EA32 has less soil depth (10-20 m) than 8 CAs (3, 8, and 14-19 inclusive) and generally similar soil depth to the remainder of CAs (1, 2, 4-7 inclusive, and 9-13 inclusive).
COMPLEXITY OF SOILS	E	E	E	L	E	L	L	L	E	E	E	E	E	L	E	L	L	E	L	Although EA32 has more complex soils (uniform) than 7 CAs, 12 CAs (1-3 inclusive, 5, 9-13 inclusive, 15, 18, and 19) have similar soils.
LAKE BREEZES	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	EA32 is affected by lake breezes (2 and 5 km). All 19 CAs are preferable to EA32 for atmospheric dispersion.
TOPOGRAPHIC INFLUENCE	L	L	L	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	Although EA32 has no topographic influence, neither do CAs 4-19 inclusive. 16 CAs (4-19 inclusive) are comparable to EA32 for atmospheric dispersion.
URBAN HEAT ISLANDS	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	EA32 and all CAs are not affected by urban heat islands. All 19 CAs are comparable to EA32 for atmospheric dispersion.
DISTANCE FROM CATEGORY 1 (KM)	L	L	L	L	L	L	L	L	L	L	L	E	E	L	L	L	L	L	E	Although EA32 is generally closer (5-10 km) to category 1 waters than 16 CAs, 3 CAs (12, 13, and 19) are an equivalent distance from category 1.
TRAVEL TIME (MINUTES) FROM CENTROID	G	G	G	G	G	G	G	G	G	G	L	L	G	G	G	G	G	G	G	EA32 is generally farther from the centroid (75 min.) than 17 CAs (1-10 inclusive and 13-19 inclusive).
TRAVEL TIME (MINUTES) FROM 400-SERIES HIGHWAYS	E	L	E	E	L	L	L	L	L	L	L	L	E	E	L	L	L	L	E	Although EA32 is generally closer (<10 min.) to 400-series highways than 13 CAs, 6 CAs (1, 3, 4, 13, 14, and 19) are as close to 400-series highways (<10 min.); and no CA is more than 30 min. distant.
SOIL CAPABILITY CLI CLASSES	L	L	L	L	L	L	L	L	L	L	L	E	E	L	L	L	L	L	L	EA32 has a lower class of soil (predominantly Class 3 with an area of Class 2) than 17 CAs (1-11 inclusive and 14-19 inclusive).

SPECIALTY AGRICULTURE	E E E E L L E L L L L E E E E L E L E	Although EA32 has limited specialty agriculture, 11 CAs (1-4 inclusive, 7, 12-15 inclusive, 17, and 19) also have limited specialty agriculture.
% TOWNSHIP IN FARMING	L L L E L L L L L L L L E L L L L L E	Although EA32 has a lower % township in farming (<40%) than 16 CAs, 3 CAs (4, 13, and 19) also have <40% township in farming. 4 CAs (7, 14, 16, and 18) also have portions of <40% township farming activity, and 7 CAs (1, 2, 3, 9, 10, 12, and 18) have portions of 40-59% township in farming.
CAPITAL VALUE PER ACRE ($)	L L L L L L L E L L E E L L L L E L E	Although EA32 has a lower capital value/acre (<$300) than 14 CAs, 5 CAs (8, 11, 12, 17, and 19) have an equivalent capital value/acre.
ANNUAL SALES PER IMPROVED ACRE ($)	L L L L L L L L L L L L L L L L L L L	Although EA32 has lower annual sales/improved acre (<$300) than all CAs, 6 CAs (7, 12, 13, 16, 17, and 19) have predominantly <$300 annual sales/improved acre.
PROXIMITY TO URBAN BUILT-UP AREAS (KM)	G L L G G L L L G G L E E G E L L E L	EA32 is somewhat closer to an urban built-up area (<2 km Fort Erie) than 9 CAs (2, 3, 6, 7, 8, 11, 16, 17, and 19). 6 CAs (1, 4, 5, 9, 10, and 14) are somewhat closer to urban built-up areas than EA32, and 4 CAs (12, 13, 15, and 18) are an approximately equivalent distance. The CAs provide a range of options for site selection.
RURAL POPULATION DENSITY (PERSONS/KM^2)	G G G G G G G G G G G G G G G G G G G	EA32 has a greater rural population density (>40 persons/km^2) than all 19 CAs.
PUBLICLY OWNED LAND	E L E E L E E E E E E E E L E E E E E	EA32 has no publicly owned land similar to 17 CAs. 2 CAs (2 and 5) contain publicly owned land, and 1 CA (3) appears immediately adjacent to publicly owned land.
INDUSTRIALLY DESIGNATED LAND	E E E L E L L E E E E E L E E E E L E	EA32 appears to have adjacent industrially designated lands similar to 3 CAs (12, 14, and 19). 5 CAs (4, 6, 7, 13, and 18) contain industrially designated lands.

SUMMARY: EA32 was primarily excluded for its poor atmospheric dispersion (2 and 5 km lake breezes). Although EA32 has a lower % township in farming, a lower capital value/acre, and lower annual sales/improved acre than most CAs and contains industrial designated lands, there are a number of CAs which have similar characteristics. EA32 does not posesess any other preferred characteristic that is not possessed by some CAs.

L = LESSER G = GREATER E = EQUIVALENT

EXCLUDED AREA 33 (EA33)

CHARACTERISTICS	CANDIDATE AREAS (CAs) 1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	COMMENTS
DEPTH OF SILT/ CLAY SOILS (METRES)	G	G	L	G	G	G	G	E	G	G	G	G	G	L	L	L	L	L	L	Although EA33 has somewhat greater soil depths (10-20 m with portions 20-30 m) than 11 CAs which have 10-20 m soil depth, 7 CAs (3 and 14-19 inclusive) have greater soil depth; and 1 CA (8) has an equivalent amount.
COMPLEXITY OF SOILS	G	G	G	E	G	E	E	E	G	G	G	G	G	E	G	E	E	G	G	EA33 has generally more complex soils (locally intermixed) than 12 CAs (1-3 inclusive, 5, 9-13 inclusive, 15, 18, and 19) and equivalent soils to the remaining 7 CAs (4, 6-8 inclusive, 14, 16, and 17).
LAKE BREEZES	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	EA33 is affected by a lake breeze (5 km). All 19 CAs are preferable to EA33 for atmospheric dispersion.
TOPOGRAPHIC INFLUENCE	L	L	L	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	Although EA33 has no topographic influence, neither do CAs 4-19 inclusive. 16 CAs (4-19 inclusive) are comparable to EA33 for atmospheric dispersion.
URBAN HEAT ISLANDS	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	EA33 and all CAs are not affected by urban heat islands. All 19 CAs are comparable to EA33 for atmospheric dispersion.
DISTANCE FROM CATEGORY 1 (KM)	L	G	L	G	G	L	L	L	G	G	G	G	G	G	G	L	L	G	G	EA33 is generally farther (5-25 km) from category 1 waters than 12 CAs (2, 4, 5, 9-15 inclusive, 18, and 19). 7 CAs (1, 3, 6, 7, 8, 16, and 17) are somewhat farther from category 1 than EA33.
TRAVEL TIME (MINUTES) FROM CENTROID	G	G	G	G	G	G	E	G	G	G	L	L	L	G	G	G	G	G	L	EA33 is generally farther from the centroid (45-75 min.) than 14 CAs (1-6 inclusive, 8-10 inclusive, and 14-18 inclusive) and an equivalent distance from the centroid as 1 CA (7).
TRAVEL TIME (MINUTES) FROM 400-SERIES HIGHWAYS	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	EA33 is farther from 400-series highways (30-50 min.) than all 19 CAs.
SOIL CAPABILITY CLI CLASSES	L	L	L	L	L	L	L	E	L	E	L	G	G	L	L	L	E	E	G	EA33 has a lower class of soil (predominantly Class 2 with areas of Class 1 and Class 4) than 12 CAs (1-7 inclusive, 9, 11, and 14-16 inclusive) and approximately equivalent classes of soil to 4 CAs (8, 10, 17, and 18).

SPECIALTY AGRICULTURE	E E E E L L E L L L L E E E E L E L E	Although EA33 has limited specialty agriculture, 11 CAs (1-4 inclusive, 7, 12-15 inclusive, 17, and 19) also have limited specialty agriculture.
% TOWNSHIP IN FARMING	G G G G G G G E G G G G G G G E G G	EA33 has a larger % township in farming (predominantly >80% and some 60-80%) than 17 CAs (1-7 inclusive, 9-16 inclusive, 18, and 19).
CAPITAL VALUE PER ACRE ($)	L L L L L L L E L L E E L L L L E L E	Although EA33 has a lower capital value/acre (<$3000) than 14 CAs, 5 CAs (8, 11, 12, 17, and 19) have an equivalent capital value/acre.
ANNUAL SALES PER IMPROVED ACRE ($)	L L L L L L L L L L L E E L L E E L E	Although EA33 has lower annual sales/improved acre (predominantly <$300 and some $300-$599) than 14 CAs, 5 CAs (12, 13, 16, 17, and 19) have equivalent annual sales/improved acre.
PROXIMITY TO URBAN BUILT-UP AREAS (KM)	G G G G G G G G G G G G G G G G G G G	EA33 is farther from an urban built-up area (<25 km Hamilton) than all CAs. The CAs range in distance from <1 to <14 km from urban built-up areas offering a range of choice for site selection.
RURAL POPULATION DENSITY (PERSONS/KM^2)	E E E G E G G L L G E E G G E G L L G	EA33 has a greater rural population density (20-40 persons/km^2) than 8 CAs (4, 6, 7, 10, 13, 14, 16, and 19) and an approximately equivalent density to 7 CAs (1-3 inclusive, 5, 11, 12, and 15).
PUBLICLY OWNED LAND	G E G G E G G G G G G G G G G G G G G	Although EA33 contains some publicly owned land, 2 CAs (2 and 5) contain publicly owned land; and 1 CA (3) appears to have publicly owned land immediately adjacent.
INDUSTRIALLY DESIGNATED LAND	E E E L E L L E E E E E L E E E E L E	EA33 has no industrially designated lands similar to 14 CAs. 5 CAs (4, 6, 7, 13, and 18) contain industrially designated lands, and 3 CAs (12, 14, and 19) appear adjacent to industrially designated lands.

SUMMARY: EA33 was primarily excluded for transportation considerations (30-50 min. from 400-series highways). EA33 is also affected by a lake breeze (5 km). Although EA33 contains some publicly owned land, 2 CAs (2 and 5) also contain publicly owned land. EA33 has no other preferred characteristic that is not possessed by some CAs.

L = LESSER G = GREATER E = EQUIVALENT

EXCLUDED AREA 34 (EA34)

CHARACTERISTICS	CANDIDATE AREAS (CAs) 1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	COMMENTS
DEPTH OF SILT/ CLAY SOILS (METRES)	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	EA34 has less soil depth (<10 m) than all CAs (predominantly 10-20 m for CAs 1, 2, and 4-13 inclusive and predominantly 20-30 m for CAs 3 and 14-19 inclusive). All CAs are preferable to EA34 hydrogeologically.
COMPLEXITY OF SOILS	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	EA34 has more complex soils with a sand or bedrock underlayer than CAs 1-3 inclusive, 5, 9-13 inclusive, 15, 18, and 19 which have uniform soils and CAs 4, 6, 7, 8, 14, 16, and 17 which have locally intermixed soils. All CAs are preferable to EA34 hydrogeologically.
LAKE BREEZES	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	EA34 is affected by a lake breeze (5 km) on its southeast edge. All CAs are preferable to EA34 for atmospheric dispersion.
TOPOGRAPHIC INFLUENCE	L	L	L	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	Although EA34 has no topographic influence, neither do CAs 4-19 inclusive. 16 CAs (4-19 inclusive) are comparable to EA34 for atmospheric dispersion.
URBAN HEAT ISLANDS	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	EA34 is affected by an urban heat island. All 19 CAs are preferable to EA34 for atmospheric dispersion.
DISTANCE FROM CATEGORY 1 (KM)	L	L	L	L	L	L	L	L	L	L	G	G	G	L	L	L	L	E	G	Although EA34 is generally closer (5-20 km) to category 1 waters than 14 CAs, 4 CAs (11-13 inclusive and 19) are closer to category 1 than EA34; and 1 CA (18) is an approximately equivalent distance.
TRAVEL TIME (MINUTES) FROM CENTROID	G	G	G	G	G	L	L	L	L	L	L	L	L	L	G	L	L	L	L	Although EA34 is closer to the centroid (<30-45 min.) than 13 CAs (6-14 inclusive and 16-19 inclusive), 6 CAs (1-5 inclusive and 15) are closer to the centroid than EA34.
TRAVEL TIME (MINUTES) FROM 400-SERIES HIGHWAYS	E	L	E	E	L	L	L	L	L	L	L	L	E	E	L	L	L	L	E	Although EA34 is generally closer to 400-series highways (<10 min.) than 13 CAs (2, 5-12 inclusive, and 15-18 inclusive), 6 CAs (1, 3, 4, 13, 14, and 19) are as close to 400-series highways (<10 min.); and no CA is more than 30 min. distant.
SOIL CAPABILITY CLI CLASSES	E	L	E	L	E	E	G	G	G	G	E	G	G	L	L	E	G	G	G	Although EA34 has a higher class of soil (predominantly Class 1) than 9 CAs (7-10 inclusive, 12, 13, and 17-19 inclusive), 4 CAs (2, 4, 14, and 15) have a higher class of soil (Class 1); and 6 CAs (1, 3, 5, 6, 11, and 16) have equally as good soil.

SPECIALTY AGRICULTURE	E E E E L L E L L L L E E E E L E L E	Although EA34 has limited specialty agriculture, 11 CAs (1-4 inclusive, 7, 12-15 inclusive, 17, and 19) also have limited specialty agriculture.
% TOWNSHIP IN FARMING	L L L E L L L L L L L L E L L L L L E	Although EA34 has less township farming activity (<40%) than the majority of CAs, 3 CAs (4, 13, and 19) also have <40% of the township in farming. CAs 7, 14, 16, and 18 also have portions of <40% township farming activity. CAs 1, 2, 3, 9, 10, 12, and 18 have portions of 40-59% township in farming.
CAPITAL VALUE PER ACRE ($)	G G G E G G G G G G G G E G G G G G	EA34 has a higher capital value/acre (>$9,000) than CAs 1-3 inclusive, 5-13 inclusive, and 15-19 inclusive with equivalent amounts to CAs 4 and 14. 17 CAs are preferable to EA34, and 2 CAs are equivalent.
ANNUAL SALES PER IMPROVED ACRE ($)	L L L E L E G G L L E G G E L G G L G	Although EA34 has lower annual sales/improved acre ($300-$599) than 8 CAs (1-3 inclusive, 5, 9, 10, 15, and 18), 7 CAs (7, 8, 12, 13, 16, 17, and 19) have lower annual sales/improved acre; and 4 CAs (4, 6, 11, and 14) have an approximately equivalent amount.
PROXIMITY TO URBAN BUILT-UP AREAS (KM)	L L L L L L L L L L L L L L L L L L L	EA34 is closer to an urban built-up area (within Mississauga) than all 19 CAs. All CAs ranging in distance from <1 to <14 km from urban built-up areas are preferable to EA34 and offer a variety of options for site selection.
RURAL POPULATION DENSITY (PERSONS/KM^2)	L L L E L L L L L L L L L L L E L L L	Although EA34 has a lower rural population density (0-19 persons/km^2) than the majority of CAs, 2 CAs (4 and 16) have the same rural population density (0-19 persons/km^2); and 6 CAs (7, 10, 13, 14, 16, and 19) have large portions of 0-19 persons/km^2 densities.
PUBLICLY OWNED LAND	G E G G E G G G G G G G G G G G G G G	Although EA34 contains some publicly owned land, 2 CAs (2 and 5) contain publicly owned land; and 1 CA (3) appears immediately adjacent to publicly owned land.
INDUSTRIALLY DESIGNATED LAND	G G G E G E E G G G G G E G G G G E G	Although EA34 contains some industrially designated land, 5 CAs (4, 6, 7, 13, and 18) contain industrially designated lands; and 3 CAs (12, 14, and 19) appear adjacent to industrially designated lands.

SUMMARY: EA34 was primarily excluded for its location within a major built-up area (Mississauga). EA34 also has poor hydrogeologic conditions (<10 m soil depth and a sand or bedrock underlayer). EA34 also offers poor atmospheric dispersion (5 km lake breeze and an urban heat island). Although EA34 contains some publicly owned land, 2 CAs (2 and 5) contain publicly owned land as well. Although EA34 contains some industrially designated land, 5 CAs (4, 6, 7, 13, and 18) also contain industrially designated lands. EA34 has no other preferred characteristic that is not possessed by some CAs.

L = LESSER G = GREATER E = EQUIVALENT

EXCLUDED AREA 35 (EA35)

CHARACTERISTICS	CANDIDATE AREAS (CAs) 1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	COMMENTS
DEPTH OF SILT/ CLAY SOILS (METRES)	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	EA35 has less soil depth (<10 m) than all CAs (predominantly 10-20 m for CAs 1, 2, and 4-13 inclusive and predominantly 20-30 m for CAs 3 and 14-19 inclusive). All CAs are preferable to EA35 hydrogeologically.
COMPLEXITY OF SOILS	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	EA35 has more complex soils with a sand or bedrock underlayer than CAs 1-3 inclusive, 5, 9-13 inclusive, 15, 18, and 19 which have uniform soils and CAs 4, 6, 7, 8, 14, 16, and 17 which have locally intermixed soils. All CAs are preferable to EA35 hydrogeologically.
LAKE BREEZES	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	EA35 and all CAs are not affected by lake breezes. All 19 CAs are comparable to EA35 for atmospheric dispersion.
TOPOGRAPHIC INFLUENCE	L	L	L	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	Although EA35 has no topographic influence, neither do CAs 4-19 inclusive. 16 CAs (4-19 inclusive) are comparable to EA35 for atmospheric dispersion.
URBAN HEAT ISLANDS	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	EA35 and all CAs are not affected by urban heat islands. All 19 CAs are comparable to EA35 for atmospheric dispersion.
DISTANCE FROM CATEGORY 1 (KM)	L	L	L	E	L	L	L	L	L	E	G	G	G	L	L	L	L	G	G	Although EA35 is generally closer (10-15 km) to category 1 waters than 12 CAs, 5 CAs (11, 12, 13, 18, and 19) are generally closer to category 1 than EA35; and 2 CAs (4 and 10) are an equivalent distance.
TRAVEL TIME (MINUTES) FROM CENTROID	G	G	G	G	G	L	L	L	L	L	L	L	L	L	G	L	L	L	L	Although EA35 is closer to the centroid (<30 min.) than 13 CAs (6-14 inclusive and 16-19 inclusive), 6 CAs (1-5 inclusive and 15) are closer to the centroid than EA35.
TRAVEL TIME (MINUTES) FROM 400-SERIES HIGHWAYS	E	L	E	E	L	L	L	L	L	L	L	L	E	E	L	L	L	L	E	Although EA35 is generally closer to 400-series highways (<10 min.) than 13 CAs (2, 5-12 inclusive, and 15-18 inclusive), 6 CAs (1, 3, 4, 13, 14, and 19) are as close to 400-series highways; and no CA is more than 30 min. distant.
SOIL CAPABILITY CLI CLASSES	G	E	G	E	G	G	G	G	G	G	G	G	G	E	E	G	G	G	G	Although EA35 has a higher class of soil (Class 1) than 15 CAs, 4 CAs (2, 4, 14, and 15) have all Class 1 soils; and 6 CAs (1, 3, 5, 6, 11, and 16) have predominantly Class 1 soils.

SPECIALTY AGRICULTURE	E	E	E	E	L	L	E	L	L	L	L	E	E	E	E	L	E	L	E	Although EA35 has limited specialty agriculture, 11 CAs (1-4 inclusive, 7, 12-15 inclusive, 17, and 19) also have limited specialty agriculture.
% TOWNSHIP IN FARMING	L	L	L	E	L	L	L	L	L	L	L	L	E	L	L	L	L	L	E	Although EA35 has less township farming activity (<40%) than the majority of CAs, 3 CAs (4, 13, and 19) also have <40% of the township in farming. CAs 7, 14, 16, and 18 have portions of <40% township farming activity. CAs 1, 2, 3, 9, 10, 12, and 18 have portions of 40-59% township in farming.
CAPITAL VALUE PER ACRE ($)	G	G	G	E	G	G	G	G	G	G	G	G	E	G	G	G	G	G		EA35 has a higher capital value/acre (>$9,000) than CAs 1-3 inclusive, 5-13 inclusive, and 15-19 inclusive with equivalent amounts to CAs 4 and 14. 17 CAs are preferable to EA35, and 2 CAs are equivalent.
ANNUAL SALES PER IMPROVED ACRE ($)	L	L	L	E	L	E	G	G	L	L	E	G	G	E	L	G	G	L	G	Although EA35 has lower annual sales/improved acre ($300-$599) than 8 CAs (1-3 inclusive, 5, 9, 10, 15, and 18), 7 CAs (7, 8, 12, 13, 16, 17, and 19) have lower annual sales/improved acre; and 4 CAs (4, 6, 11, and 14) have an approximately equivalent amount.
PROXIMITY TO URBAN BUILT-UP AREAS (KM)	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	EA35 is closer to an urban built-up area (within Mississauga, Streetsville) than all 19 CAs. All CAs ranging in distance from <1 to <14 km from urban built-up areas are preferable to EA35 and offer a variety of options for site selection.
RURAL POPULATION DENSITY (PERSONS/KM^2)	L	L	L	E	L	L	L	L	L	L	L	L	L	L	L	E	L	L	L	Although EA35 has a lower rural population density (0-19 persons/km^2) than the majority of CAs, 2 CAs (4 and 16) have the same rural population density (0-19 persons/km^2); and 6 CAs (7, 10, 13, 14, 16, and 19) have large portions of 0-19 persons/km^2 densities.
PUBLICLY OWNED LAND	E	L	E	E	L	E	E	E	E	E	E	E	E	E	E	E	E	E	E	Two CAs (2 and 5) contain publicly owned land, and 1 CA (3) appears immediately adjacent to publicly owned land. EA35 has no publicly owned land similar to 17 CAs.
INDUSTRIALLY DESIGNATED LAND	E	E	E	L	E	L	L	E	E	E	E	E	L	E	E	E	E	L	E	EA35 has no industrially designated lands similar to 14 CAs. 5 CAs (4, 6, 7, 13, and 18) contain industrially designated lands, and 3 CAs (12, 14, and 19) appear adjacent to industrially designated lands.

SUMMARY: EA35 was primarily excluded for its location within a major built-up area (Mississauga). EA35 also has poor hydrogeologic conditions (<10 m soil depth and a sand or bedrock underlayer). EA35 has no preferred characteristics that are not possessed by some CAs.

L = LESSER G = GREATER E = EQUIVALENT

E X C L U D E D A R E A 36 (EA36)

CHARACTERISTICS	CANDIDATE AREAS (CAs) 1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	COMMENTS
DEPTH OF SILT/ CLAY SOILS (METRES)	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	EA36 has less soil depth (<10 m) than all CAs (predominantly 10-20 m for CAs 1, 2, and 4-13 inclusive and predominantly 20-30 m for CAs 3 and 14-19 inclusive). All CAs are preferable to EA36 hydrogeologically.
COMPLEXITY OF SOILS	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	EA36 has more complex soils with a sand or bedrock underlayer than CAs 1-3 inclusive, 5, 9-13 inclusive, 15, 18, and 19 which have uniform soils and CAs 4, 6, 7, 8, 14, 16, and 17 which have locally intermixed soils. All CAs are preferable to EA36 hydrogeologically.
LAKE BREEZES	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	EA36 and all CAs are not affected by lake breezes. All 19 CAs are comparable to EA36 for atmospheric dispersion.
TOPOGRAPHIC INFLUENCE	L	L	L	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	Although EA36 has no topographic influence, neither do CAs 4-19 inclusive. 16 CAs (4-19 inclusive) are comparable to EA36 for atmospheric dispersion.
URBAN HEAT ISLANDS	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	EA36 and all CAs are not affected by urban heat islands. All 19 CAs are comparable to EA36 for atmospheric dispersion.
DISTANCE FROM CATEGORY 1 (KM)	E	G	E	G	G	L	L	L	G	G	G	G	G	E	G	L	L	G	G	EA36 is generally farther (15-20 km) from category 1 waters than 11 CAs (2, 4, 5, 9-13 inclusive, 15, 18, and 19). 5 CAs (6, 7, 8, 16, and 17) are generally farther from category 1 than EA36, and 3 CAs (1, 3, and 14) are an equivalent distance.
TRAVEL TIME (MINUTES) FROM CENTROID	G	G	G	G	G	L	L	L	L	L	L	L	L	L	G	L	L	L	L	Although EA36 is closer to the centroid (<30 min.) than 13 CAs (6-14 inclusive and 16-19 inclusive), 6 CAs (1-5 inclusive and 15) are closer to the centroid than EA36.
TRAVEL TIME (MINUTES) FROM 400-SERIES HIGHWAYS	E	L	E	E	L	L	L	L	L	L	L	L	E	E	L	L	L	L	E	Although EA36 is generally closer to 400-series highways (<10 min.) than 13 CAs (2, 5-12 inclusive, and 15-18 inclusive), 6 CAs (1, 3, 4, 13, 14, and 19) are as close to 400-series highways; and no CA is more than 30 min. distant.
SOIL CAPABILITY CLI CLASSES	G	E	G	E	G	G	G	G	G	G	G	G	G	E	E	G	G	G	G	Although EA36 has a higher class of soil (Class 1) than 15 CAs, 4 CAs (2, 4, 14, and 15) have all Class 1 soils; and 6 CAs (1, 3, 5, 6, 11, and 16) have predominantly Class 1 soils.

SPECIALTY AGRICULTURE	E E E E L L E L L L L E E E E L E L E	Although EA36 has limited specialty agriculture, 11 CAs (1-4 inclusive, 7, 12-15 inclusive, 17, and 19) also have limited specialty agriculture.
% TOWNSHIP IN FARMING	L L L E L L L L L L L L E L L L L L E	Although EA36 has less township farming activity (<40%) than the majority of CAs, 3 CAs (4, 13, and 19) also have <40% of the township in farming. CAs 7, 14, 16, and 18 also have portions of <40% township farming activity. CAs 1, 2, 3, 9, 10, 12, and 18 have portions of 40-59% township in farming.
CAPITAL VALUE PER ACRE ($)	G G G E G G G G G G G G E G G G G G	EA36 has a higher capital value/acre (>$9,000) than CAs 1-3 inclusive, 5-13 inclusive, and 15-19 inclusive with equivalent amounts to CAs 4 and 14. 17 CAs are preferable to EA36, and 2 CAs are equivalent.
ANNUAL SALES PER IMPROVED ACRE ($)	L L L E L E G G L L E G G E L G G L G	Although EA36 has lower annual sales/improved acre ($300-$599) than 8 CAs (1-3 inclusive, 5, 9, 10, 15, and 18), 7 CAs (7, 8, 12, 13, 16, 17, and 19) have lower annual sales/improved acre; and 4 CAs (4, 6, 11, and 14) have an approximately equivalent amount.
PROXIMITY TO URBAN BUILT-UP AREAS (KM)	L L L L L L L L L L L L L L L L L L L	EA36 is closer to an urban built-up area (<1 km Mississauga, Streetsville) than all 19 CAs. All CAs ranging in distance from <1 to <14 km from urban built-up areas are preferable to EA36 and offer a variety of options for site selection.
RURAL POPULATION DENSITY (PERSONS/KM^2)	L L L E L L L L L L L L L L L E L L L	Although EA36 has a lower rural population density (0-19 persons/km^2) than the majority of CAs, 2 CAs (4 and 16) have the same rural population density (0-19 persons/km^2); and 6 CAs (7, 10, 13, 14, 16, and 19) have large portions of 0-19 persons/km^2 densities.
PUBLICLY OWNED LAND	E L E E L E E E E E E E E E E E E E E	Two CAs (2 and 5) contain publicly owned land, and 1 CA (3) appears immediately adjacent to publicly owned land. EA36 has no publicly owned land similar to 17 CAs.
INDUSTRIALLY DESIGNATED LAND	G G G E G E E G G G G E G G G G E G	Although EA36 contains some industrially designated land, 5 CAs (4, 6, 7, 13, and 18) contain industrially designated lands; and 3 CAs (12, 14, and 19) appear adjacent to industrially designated lands.

SUMMARY: EA36 was primarily excluded for its location within a major built-up area (Mississauga). EA36 also has poor hydrogeologic conditions (<10 m soil depth and a sand or bedrock underlayer). Although EA36 contains some industrially designated land, 5 CAs (4, 6, 7, 13, and 18) also contain industrially designated lands. EA36 has no other preferred characteristic that is not possessed by some CAs.

L = LESSER G = GREATER E = EQUIVALENT

EXCLUDED AREA 37 (EA37)

CHARACTERISTICS	CANDIDATE AREAS (CAs) 1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	COMMENTS
DEPTH OF SILT/ CLAY SOILS (METRES)	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	EA37 has less soil depth (predominantly <10 m and portion variable) than all CAs (predominantly 10-20 m for CAs 1, 2, and 4-13 inclusive and predominantly 20-30 m for CAs 3 and 14-19 inclusive). All CAs are preferable to EA37 hydrogeologically.
COMPLEXITY OF SOILS	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	EA37 has more complex soils (predominantly with a sand or bedrock underlayer and a portion sandy) than CAs 1-3 inclusive, 5, 9-13 inclusive, 15, 18, and 19 which have uniform soils and CAs 4, 6, 7, 8, 14, 16, and 17 which have locally intermixed soils. All CAs are preferable to EA37 hydrogeologically.
LAKE BREEZES	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	EA37 and all CAs are not affected by lake breezes. All 19 CAs are comparable to EA37 for atmospheric dispersion.
TOPOGRAPHIC INFLUENCE	E	E	E	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	EA37 has a topographic influence similar to CAs 1-3 inclusive. 16 CAs (4-19 inclusive) have no topographic influence and are preferable to EA37 for atmospheric dispersion.
URBAN HEAT ISLANDS	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	EA37 and all CAs are not affected by urban heat islands. All 19 CAs are comparable to EA37 for atmospheric dispersion.
DISTANCE FROM CATEGORY 1 (KM)	G	G	G	G	G	L	L	L	G	G	G	G	G	G	G	L	L	G	G	EA37 is generally farther (15-25 km) from category 1 waters than 14 CAs (1-5 inclusive, 9-15 inclusive, 18, and 19). 5 CAs (6, 7, 8, 16, and 17) are somewhat farther from category 1 than EA37.
TRAVEL TIME (MINUTES) FROM CENTROID	G	G	G	L	E	L	L	L	L	L	L	L	L	L	G	L	L	L	L	Although EA37 is closer to the centroid (<15-30 min.) than CAs 4, 6-14 inclusive, and 16-19 inclusive, 4 CAs (1-3 inclusive and 15) are closer to the centroid than EA3 (<15 min.); and 1 CA (5) is an equivalent distance from the centroid (<15-30 min.).
TRAVEL TIME (MINUTES) FROM 400-SERIES HIGHWAYS	E	L	E	E	L	L	L	L	L	L	L	L	E	E	L	L	L	L	E	Although EA37 is generally closer (<10 min.) to 400-series highways than 13 CAs, 6 CAs (1, 3, 4, 13, 14, and 19) are as close to 400-series highways (<10 min.); and no CA is more than 30 min. distant.
SOIL CAPABILITY CLI CLASSES	G	E	G	E	G	G	G	G	G	G	G	G	G	E	E	G	G	G	G	Although EA37 has a higher class of soil (Class 1) than 15 CAs, 4 CAs (2, 4, 14, and 15) have all Class 1 soils; and 6 CAs (1, 3, 5, 6, 11, and 16) have predominantly Class 1 soils.

SPECIALTY AGRICULTURE	E E E E L L E L L L L E E E E L E L E	Although EA37 has a limited amount of specialty agriculture, 11 CAs also have limited specialty agriculture (CAs 1-4 inclusive, 7, 12-15 inclusive, 17, and 19).
% TOWNSHIP IN FARMING	E E E G E E G L L G E G G G E G L L G	EA37 has a larger % township in farming (60-80%) than 8 CAs (4, 7, 10, 12-14 inclusive, 16, and 19) and an approximately equivalent amount to 7 CAs (1-3 inclusive, 5, 6, 11, and 15).
CAPITAL VALUE PER ACRE ($)	L L L L E G G G G L G G G E L G G G G	EA37 has a higher capital value/acre ($3000-$5999) than 11 CAs (6-9 inclusive, 11-13 inclusive, and 16-19 inclusive) and an equivalent amount to 2 CAs (5 and 14).
ANNUAL SALES PER IMPROVED ACRE ($)	G G G G E G G G G L G G G G E G G G G	EA37 has greater annual sales/improved acre ($600-$900) than 16 CAs (1-4 inclusive, 6-9 inclusive, 11-14 inclusive, and 16-19 inclusive) and an equivalent amount to 2 CAs (5 and 15).
PROXIMITY TO URBAN BUILT-UP AREAS (KM)	L L L L L L L L L L L L L L L L L L L	EA37 is closer to an urban built-up area (within Milton) than all 19 CAs. All CAs ranging in distance from <1 to <14 km from urban built-up areas are preferable to EA37 and offer a variety of options for site selection.
RURAL POPULATION DENSITY (PERSONS/KM^2)	E E E G E G G L L G E E G G E G L L G	EA37 has a greater rural population density (20-40 persons/km^2) than 8 CAs (4, 6, 7, 10, 13, 14, 16, and 19) and an approximately equivalent density to 7 CAs (1-3 inclusive, 5, 11, 12, and 15).
PUBLICLY OWNED LAND	G E G G E G G G G G G G G G G G G G G	Although EA37 has some publicly owned land within its boundaries, 2 CAs (2 and 5) contain publicly owned land; and 1 CA (3) appears to have publicly owned land immediately adjacent.
INDUSTRIALLY DESIGNATED LAND	G G G E G E E G G G G G E G G G G E G	Although EA37 contains some industrially designated land, 5 CAs (4, 6, 7, 13, and 18) contain industrially designated lands; and 3 CAs (12, 14, and 19) appear adjacent to industrially designated lands.

SUMMARY: EA37 was primarily excluded for its location within a built-up area (Milton). EA37 also has poor hydrogeologic conditions (predominantly <10 m soil depth with a portion of variable soil depth and predominantly underlain by sand or bedrock with a portion having sandy soils). EA37 also has a topographic influence affecting atmospheric dispersion. Although EA37 has some publicly owned land, 2 CAs (2 and 5) also contain publicly owned land. Although EA37 contains industrially designated lands, 5 CAs (4, 6, 7, 13, and 18) also contain industrially designated lands. EA37 has no other preferred characteristic that is not possessed by a number of

L = LESSER G = GREATER E = EQUIVALENT

E X C L U D E D A R E A 38 (EA38)

CHARACTERISTICS	CANDIDATE AREAS (CAs) 1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	COMMENTS
DEPTH OF SILT/ CLAY SOILS (METRES)	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	EA38 has generally less soil depth (variable) than all CAs (predominantly 10-20 m for CAs 1, 2, and 4-13 inclusive and predominantly 20-30 m for CAs 3 and 14-19 inclusive). All CAs are preferable to EA38 hydrogeologically.
COMPLEXITY OF SOILS	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	EA38 has more complex soils (sandy) than CAs 1-3 inclusive, 5, 9-13 inclusive, 15, 18, and 19 which have uniform soils and CAs 4, 6-8 inclusive, 14, 16, and 17 which have locally intermixed soils. All CAs are preferable to EA38 hydrogeologically.
LAKE BREEZES	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	EA38 and all CAs are not affected by lake breezes. All 19 CAs are comparable to EA38 for atmospheric dispersion.
TOPOGRAPHIC INFLUENCE	L	L	L	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	Although EA38 has no topographic influence, neither do CAs 4-19 inclusive. 16 CAs (4-19 inclusive) are comparable to EA38 for atmospheric dispersion.
URBAN HEAT ISLANDS	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	EA38 and all CAs are not affected by urban heat islands. All 19 CAs are comparable to EA38 for atmospheric dispersion.
DISTANCE FROM CATEGORY 1 (KM)	E	G	E	G	G	L	L	L	G	G	G	G	G	E	G	L	L	G	G	EA38 is generally farther (15-20 km) from category 1 waters than 11 CAs (2, 4, 5, 9-13 inclusive, 15, 18, and 19). 5 CAs (6, 7, 8, 16, and 17) are generally farther from category 1 than EA38, and 3 CAs (1, 3, and 14) are an equivalent distance.
TRAVEL TIME (MINUTES) FROM CENTROID	G	G	G	G	G	L	L	L	L	L	L	L	L	L	G	L	L	L	L	Although EA38 is closer to the centroid (<30 min.) than 13 CAs (6-14 inclusive and 16-19 inclusive), 6 CAs (1-5 inclusive and 15) are closer to the centroid than EA38.
TRAVEL TIME (MINUTES) FROM 400-SERIES HIGHWAYS	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	Although EA38 is generally closer (<10 min.) to 400-series highways than CAs 2, 5-12 inclusive, and 15-18 inclusive, 6 CAs (1, 3, 4, 13, 14, and 19) are as close to 400-series highways (<10 min.); and no CA is more than 30 min. distant.
SOIL CAPABILITY CLI CLASSES	L	L	L	L	L	L	L	L	L	G	L	G	G	L	L	L	G	G	G	EA38 has a lower class of soil (Class 2) than 13 CAs (1-9 inclusive, 11, and 14-16 inclusive).

EXCLUDED AREA 38 (EA38)

CHARACTERISTICS	CANDIDATE AREAS (CAs) 1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	COMMENTS
DEPTH OF SILT/ CLAY SOILS (METRES)	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	EA38 has generally less soil depth (variable) than all CAs (predominantly 10-20 m for CAs 1, 2, and 4-13 inclusive and predominantly 20-30 m for CAs 3 and 14-19 inclusive). All CAs are preferable to EA38 hydrogeologically.
COMPLEXITY OF SOILS	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	EA38 has more complex soils (sandy) than CAs 1-3 inclusive, 5, 9-13 inclusive, 15, 18, and 19 which have uniform soils and CAs 4, 6-8 inclusive, 14, 16, and 17 which have locally intermixed soils. All CAs are preferable to EA38 hydrogeologically.
LAKE BREEZES	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	EA38 and all CAs are not affected by lake breezes. All 19 CAs are comparable to EA38 for atmospheric dispersion.
TOPOGRAPHIC INFLUENCE	L	L	L	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	Although EA38 has no topographic influence, neither do CAs 4-19 inclusive. 16 CAs (4-19 inclusive) are comparable to EA38 for atmospheric dispersion.
URBAN HEAT ISLANDS	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	EA38 and all CAs are not affected by urban heat islands. All 19 CAs are comparable to EA38 for atmospheric dispersion.
DISTANCE FROM CATEGORY 1 (KM)	E	G	E	G	G	L	L	L	G	G	G	G	G	E	G	L	L	G	G	EA38 is generally farther (15-20 km) from category 1 waters than 11 CAs (2, 4, 5, 9-13 inclusive, 15, 18, and 19). 5 CAs (6, 7, 8, 16, and 17) are generally farther from category 1 than EA38, and 3 CAs (1, 3, and 14) are an equivalent distance.
TRAVEL TIME (MINUTES) FROM CENTROID	G	G	G	G	G	L	L	L	L	L	L	L	L	L	G	L	L	L	L	Although EA38 is closer to the centroid (<30 min.) than 13 CAs (6-14 inclusive and 16-19 inclusive), 6 CAs (1-5 inclusive and 15) are closer to the centroid than EA38.
TRAVEL TIME (MINUTES) FROM 400-SERIES HIGHWAYS	E	L	E	E	L	L	L	L	L	L	L	L	E	E	L	L	L	L	E	Although EA38 is generally closer (<10 min.) to 400-series highways than CAs 2, 5-12 inclusive, and 15-18 inclusive, 6 CAs (1, 3, 4, 13, 14, and 19) are as close to 400-series highways (<10 min.); and no CA is more than 30 min. distant.
SOIL CAPABILITY CLI CLASSES	L	L	L	L	L	L	L	L	L	G	L	G	G	L	L	L	G	G	G	EA38 has a lower class of soil (Class 2) than 13 CAs (1-9 inclusive, 11, and 14-16 inclusive).

EXCLUDED AREA 39 (EA39)

CHARACTERISTICS	CANDIDATE AREAS (CAs) 1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	COMMENTS
DEPTH OF SILT/ CLAY SOILS (METRES)	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	EA39 has generally greater soil depth (predominantly >30 m with a portion of variable soil depth) than all 19 CAs.
COMPLEXITY OF SOILS	E	E	E	L	E	L	L	L	E	E	E	E	E	L	E	L	L	E	E	Although EA39 has generally less complex soils (predominantly uniform with a sandy portion) than 7 CAs, 12 CAs (1-3 inclusive, 5, 9-13 inclusive, 15, 18, and 19) have similar soils (uniform).
LAKE BREEZES	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	EA39 and all CAs are not affected by lake breezes. All 19 CAs are comparable to EA39 for atmospheric dispersion.
TOPOGRAPHIC INFLUENCE	L	L	L	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	Although EA39 has no topographic influence, neither do CAs 4-19 inclusive. 16 CAs (4-19 inclusive) are comparable to EA39 for atmospheric dispersion.
URBAN HEAT ISLANDS	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	EA39 is affected by an urban heat island. All 19 CAs are preferable to EA39 for atmospheric dispersion.
DISTANCE FROM CATEGORY 1 (KM)	L	L	L	E	L	L	L	L	L	E	G	G	G	L	L	L	L	G	G	Although EA39 is generally closer (10-15 km) to category 1 waters than 12 CAs, 5 CAs (11, 12, 13, 18, and 19) are generally closer to category 1 than EA39; and 2 CAs (4 and 10) are an equivalent distance.
TRAVEL TIME (MINUTES) FROM CENTROID	G	G	G	G	G	G	G	G	G	G	L	L	G	G	G	G	G	G	G	EA39 is generally farther from the centroid (75 min.) than 17 CAs (1-19 inclusive and 13-19 inclusive).
TRAVEL TIME (MINUTES) FROM 400-SERIES HIGHWAYS	G	L	G	G	G	G	L	L	G	G	L	L	G	G	G	G	L	G	G	EA39 is generally farther (10-20 min.) from 400-series highways than the majority of CAs (1, 3-6 inclusive, 9, 10, 13-16 inclusive, 18, and 19); and 6 CAs (2, 7, 8, 11, 12, and 17) are generally farther from 400-series highways. No CA is more than 30 min. distant.
SOIL CAPABILITY CLI CLASSES	L	L	L	L	L	L	L	L	L	L	L	E	E	L	L	L	L	L	L	EA39 has a lower class of soil (predominantly Class 3 with areas of Class 2) than 17 CAs (1-11 inclusive and 14-19 inclusive).

SPECIALTY AGRICULTURE	E	E	E	E	L	L	E	L	L	L	L	E	E	E	E	L	E	L	E
% TOWNSHIP IN FARMING	L	L	L	E	L	L	L	L	L	L	L	L	E	L	L	L	L	L	E
CAPITAL VALUE PER ACRE ($)	L	L	L	L	L	L	L	E	L	L	E	E	L	L	L	L	E	L	E
ANNUAL SALES PER IMPROVED ACRE ($)	L	L	L	E	L	E	G	G	L	L	E	G	G	E	L	G	G	L	G
PROXIMITY TO URBAN BUILT-UP AREAS (KM)	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L
RURAL POPULATION DENSITY (PERSONS/KM^2)	E	E	E	G	E	G	G	L	L	G	E	E	G	G	E	G	L	L	G
PUBLICLY OWNED LAND	G	E	G	G	E	G	G	G	G	G	G	G	G	G	G	G	G	G	G
INDUSTRIALLY DESIGNATED LAND	G	G	G	E	G	E	E	G	G	G	G	G	E	G	G	G	G	E	G

Although EA39 has limited specialty agriculture, 11 CAs (1-4 inclusive, 7, 12-15 inclusive, 17, and 19) also have limited specialty agriculture.

Although EA39 has less township farming activity (<40%) than the majority of CAs, 3 CAs (4, 13, and 19) also have <40% of the township in farming. CAs 7, 14, 16, and 18 also have portions of <40% township farming activity. CAs 1, 2, 3, 9, 10, 12, and 18 have portions of 40-59% township in farming.

Although EA39 has a lower capital value/acre (<$3000) than 14 CAs, 5 CAs (8, 11, 12, 17, and 19) have an equivalent capital value/acre.

Although EA39 has lower annual sales/improved acre ($300-$599) than 8 CAs (1-3 inclusive, 5, 9, 10, 15, and 18), 7 CAs (7, 8, 12, 13, 16, 17, and 19) have lower annual sales/improved acre; and 4 CAs (4, 6, 11, and 14) have an approximately equivalent amount.

EA39 is closer to an urban built-up area (within Welland) than all 19 CAs. All CAs ranging in distance from <1 to <14 km from urban built-up areas are preferable to EA39 and offer a variety of options for site selection.

EA39 has a greater rural population density (20-40 persons/km^2) than 8 CAs (4, 6, 7, 10, 13, 14, 16, and 19) and an approximately equivalent density to 7 CAs (1-3 inclusive, 5, 11, 12, and 15).

Although EA39 has some publicly owned land within its boundaries, 2 CAs (2 and 5) contain publicly owned land; and 1 CA (3) appears to have publicly owned land immediately adjacent.

Although EA39 contains industrially designated lands, 5 CAs (4, 6, 7, 13, and 18) contain industrially designated lands; and 3 CAs (12, 14, and 19) appear adjacent to industrially designated lands.

SUMMARY: EA39 was primarily excluded for its location in a major built-up area (Welland). EA39 is also affected by an urban heat island thereby offering poor atmospheric dispersion. Although EA39 has some publicly owned land within its boundaries, 2 CAs (2 and 5) contain publicly owned land as well. Although EA39 contains industrially designated lands, 5 CAs (4, 6, 7, 13, and 18) also contain industrially designated lands. EA39 has no other preferred characteristic that is not possessed by some CAs.

L = LESSER G = GREATER E = EQUIVALENT

EXCLUDED AREA 40 (EA40)

CHARACTERISTICS	CANDIDATE AREAS (CAs) 1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	COMMENTS
DEPTH OF SILT/ CLAY SOILS (METRES)	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	EA40 has less soil depth (<10 m) than all CAs (predominantly 10-20 m for CAs 1, 2, and 4-13 inclusive and predominantly 20-30 m for CAs 3 and 14-19 inclusive). All CAs are preferable to EA40 hydrogeologically.
COMPLEXITY OF SOILS	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	EA40 has more complex soils with a sand or bedrock underlayer than CAs 1-3 inclusive, 5, 9-13 inclusive, 15, 18, and 19 which have uniform soils and CAs 4, 6-8 inclusive, 14, 16, and 17 which have locally intermixed soils. All CAs are preferable to EA40 hydrogeologically.
LAKE BREEZES	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	EA40 and all CAs are not affected by lake breezes. All 19 CAs are comparable to EA40 for atmospheric dispersion.
TOPOGRAPHIC INFLUENCE	L	L	L	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	Although EA40 has no topographic influence, neither do CAs 4-19 inclusive. 16 CAs (4-19 inclusive) are comparable to EA40 for atmospheric dispersion.
URBAN HEAT ISLANDS	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	EA40 is affected by an urban heat island. All 19 CAs are preferable to EA40 for atmospheric dispersion.
DISTANCE FROM CATEGORY 1 (KM)	L	L	L	L	L	L	L	L	L	L	L	E	E	L	L	L	L	L	E	Although EA40 is generally closer (5-10 km) to category 1 waters than 16 CAs, 3 CAs (12, 13, and 19) are an equivalent distance from category 1.
TRAVEL TIME (MINUTES) FROM CENTROID	G	G	G	G	G	G	L	G	G	G	L	L	L	G	G	G	E	G	L	EA40 is generally farther from the centroid (45-60 min.) than 13 CAs (1-6 inclusive, 8-10 inclusive, 14-16 inclusive, and 18) and an equivalent distance to 1 CA (17).
TRAVEL TIME (MINUTES) FROM 400-SERIES HIGHWAYS	E	L	E	E	L	L	L	L	L	L	L	L	E	E	L	L	L	L	E	Although EA40 is generally closer (<10 min.) to 400-series highways than CAs 2, 5-12 inclusive, and 15-18 inclusive, 6 CAs (1, 3, 4, 13, 14, and 19) are as close to 400-series highways (<10 min.); and no CA is more than 30 min. distant.
SOIL CAPABILITY CLI CLASSES	L	L	L	L	L	L	L	L	L	G	L	G	G	L	L	L	G	G	G	EA40 has a lower class of soil (Class 2) than 13 CAs (1-9 inclusive, 11, and 14-16 inclusive).

SPECIALTY AGRICULTURE	E E E E L L E L L L L E E E E L E L E	Although EA40 has limited specialty agriculture, 11 CAs (1-4 inclusive, 7, 12-15 inclusive, 17, and 19) also have limited specialty agriculture.
% TOWNSHIP IN FARMING	L L L E L L L L L L L L E L L L L L E	Although EA40 has less township farming activity (<40%) than the majority of CAs, 3 CAs (4, 13, and 19) also have <40% of the township in farming. CAs 7, 14, 16, and 18 also have portions of <40% township farming activity. CAs 1, 2, 3, 9, 10, 12, and 18 have portions of 40-59% township in farming.
CAPITAL VALUE PER ACRE ($)	L L L L E G G G G L G G G E L G G G G	EA40 has a higher capital value/acre ($3000-$5999) than 11 CAs (6-9 inclusive, 11-13 inclusive, and 16-19 inclusive) and an equivalent amount to 2 CAs (5 and 14).
ANNUAL SALES PER IMPROVED ACRE ($)	L L L E L E G G L L E G G E L G G L G	Although EA40 has lower annual sales/improved acre ($300-$599) than 8 CAs (1-3 inclusive, 5, 9, 10, 15, and 18), 7 CAs (7, 8, 12, 13, 16, 17, and 19) have lower annual sales/improved acre; and 4 CAs (4, 6, 11, and 14) have an approximately equivalent amount.
PROXIMITY TO URBAN BUILT-UP AREAS (KM)	L L L L L L L L L L L L L L L L L L	EA40 is closer to an urban built-up area (within St. Catharines) than all 19 CAs. All CAs ranging in distance from <1 to <14 km from urban built-up areas are preferable to EA40 and offer a variety of options for site selection.
RURAL POPULATION DENSITY (PERSONS/KM^2)	E E E G E G G L L G E E G G E G L L G	EA40 has a greater rural population density (20-40 persons/km^2) than 8 CAs (4, 6, 7, 10, 13, 14, 16, and 19) and an approximately equivalent density to 7 CAs (1-3 inclusive, 5, 11, 12, and 15).
PUBLICLY OWNED LAND	E L E E L E E E E E E E E E E E E E	2 CAs (2 and 5) contain publicly owned land, and 1 CA (3) appears immediately adjacent to publicly owned land. EA40 has no publicly owned land similar to 17 CAs.
INDUSTRIALLY DESIGNATED LAND	E E E L E L L E E E E E L E E E E L E	EA40 has no industrially designated lands similar to 14 CAs. 5 CAs (4, 6, 7, 13, and 18) contain industrially designated lands; and 3 CAs (12, 14, and 19) appear adjacent to industrially designated lands.

SUMMARY: EA40 was primarily exluded for its location in a major built-up area (St. Catharines). EA40 also has unsuitable hydrogeologic conditions (<10 m soil depth and a sand or bedrock underlayer). EA40 is also affected by an urban heat island. EA40 has no preferred characteristic which is not possessed by some CAs.

L = LESSER G = GREATER E = EQUIVALENT

EXCLUDED AREA 41 (EA41)

CHARACTERISTICS	CANDIDATE AREAS (CAs) 1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	COMMENTS
DEPTH OF SILT/ CLAY SOILS (METRES)	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	EA41 has less soil depth (<10 m) than all CAs (predominantly 10-20 m for CAs 1, 2, and 4-13 inclusive and predominantly 20-30 m for CAs 3 and 14-19 inclusive). All CAs are preferable to EA41 hydrogeologically.
COMPLEXITY OF SOILS	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	EA41 has more complex soils with a sand or bedrock underlayer than CAs 1-3 inclusive, 5, 9-13 inclusive, 15, 18, and 19 which have uniform soils and CAs 4, 6-8 inclusive, 14, 16, and 17 which have locally intermixed soils. All CAs are preferable to EA41 hydrogeologically.
LAKE BREEZES	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	EA41 and all CAs are not affected by lake breezes. All 19 CAs are comparable to EA41 for atmospheric dispersion.
TOPOGRAPHIC INFLUENCE	L	L	L	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	Although EA41 has no topographic influence, neither do CAs 4-19 inclusive. 16 CAs (4-19 inclusive) are comparable to EA41 for atmospheric dispersion.
URBAN HEAT ISLANDS	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	EA41 and all CAs are not affected by urban heat islands. All 19 CAs are comparable to EA41 for atmospheric dispersion.
DISTANCE FROM CATEGORY 1 (KM)	L	L	L	L	L	L	L	L	L	L	L	E	E	L	L	L	L	L	E	Although EA41 is generally closer (5-10 km) to category 1 waters than 16 CAs, 3 CAs (12, 13, and 19) are an equivalent distance from category 1.
TRAVEL TIME (MINUTES) FROM CENTROID	G	G	G	G	G	G	L	G	G	G	L	L	L	G	G	G	E	G	L	EA41 is generally farther from the centroid (45-60 min.) than 13 CAs (1-6 inclusive, 8-10 inclusive, 14-16 inclusive, and 18) and an equivalent distance to 1 CA (17).
TRAVEL TIME (MINUTES) FROM 400-SERIES HIGHWAYS	E	L	E	E	L	L	L	L	L	L	L	L	E	E	L	L	L	L	E	Although EA41 is generally closer (<10 min.) to 400-series highways than CAs 2, 5-12 inclusive, and 15-18 inclusive, 6 CAs (1, 3, 4, 13, 14, and 19) are as close to 400-series highways (<10 min.); and no CA is more than 30 min. distant.
SOIL CAPABILITY CLI CLASSES	L	L	L	L	L	L	L	L	L	G	L	G	G	L	L	L	G	G	G	EA41 has a lower class of soil (Class 2) than 13 CAs (1-9 inclusive, 11, and 14-16 inclusive).

SPECIALTY AGRICULTURE	E E E E L L E L L L L E E E E L E L E	Although EA41 has limited specialty agriculture, 11 CAs (1-4 inclusive, 7, 12-15 inclusive, 17, and 19) also have limited specialty agriculture.
% TOWNSHIP IN FARMING	L L L E L L L L L L L L E L L L L L E	Although EA41 has less township farming activity (<40%) than the majority of CAs, 3 CAs (4, 13, and 19) also have <40% of the township in farming. CAs 7, 14, 16, and 18 also have portions of <40% township farming activity. CAs 1, 2, 3, 9, 10, 12, and 18 have portions of 40-59% township in farming.
CAPITAL VALUE PER ACRE ($)	L L L L E G G G G L G G G E L G G G G	EA40 has a higher capital value/acre ($3000-$5999) than 11 CAs (6-9 inclusive, 11-13 inclusive, and 16-19 inclusive) and an equivalent amount to 2 CAs (5 and 14).
ANNUAL SALES PER IMPROVED ACRE ($)	L L L E L E G G L L E G G E L G G L G	Although EA41 has lower annual sales/improved acre ($300-$599) than 8 CAs (1-3 inclusive, 5, 9, 10, 15, and 18), 7 CAs (7, 8, 12, 13, 16, 17, and 19) have lower annual sales/improved acre; and 4 CAs (4, 6, 11, and 14) have an approximately equivalent amount.
PROXIMITY TO URBAN BUILT-UP AREAS (KM)	L L L L L L L L L L L L L L L L L L L	EA41 is closer to an urban built-up area (within St. Catharines) than all 19 CAs. All CAs ranging in distance from <1 to <14 km from urban built-up areas are preferable to EA41 and offer a variety of options for site selection.
RURAL POPULATION DENSITY (PERSONS/KM^2)	E E E G E G G L L G E E G G E G L L G	EA41 has a greater rural population density (20-40 persons/km^2) than 8 CAs (4, 6, 7, 10, 13, 14, 16, and 19) and an approximately equivalent density to 7 CAs (1-3 inclusive, 5, 11, 12, and 15).
PUBLICLY OWNED LAND	G E G G E G G G G G G G G G G G G G G	Although EA41 has some publicly owned land within its boundaries, 2 CAs (2 and 5) contain publicly owned land; and 1 CA (3) appears to have publicly owned land immediately adjacent.
INDUSTRIALLY DESIGNATED LAND	G G G E G E E G G G G G E G G G G E G	Although EA41 contains some industrially designated lands, 5 CAs (4, 6, 7, 13, and 18) contain industrially designated lands; and 3 CAs (12, 14, and 19) appear adjacent to industrially designated lands.

SUMMARY: EA41 was primarily excluded for its location in a major built-up area (St. Catharines). EA41 also has unsuitable hydrogeologic conditions (<10 m soil depth and a sand or bedrock underlayer). Although EA41 has some publicly owned land within its boundaries, 2 CAs (2 and 5) contain publicly owned land as well. Although EA41 contains some industrially designated land, 5 CAs (4, 6, 7, 13, and 18) also contain industrially designated lands. EA41 has no other preferred characteristic that is not possessed by some CAs.

L = LESSER G = GREATER E = EQUIVALENT

EXCLUDED AREA 42 (EA42)

CHARACTERISTICS	CANDIDATE AREAS (CAs) 1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	COMMENTS
DEPTH OF SILT/ CLAY SOILS (METRES)	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	EA42 has less soil depth (portion 10-20 m and portion variable) than all CAs (predominantly 10-20 m for CAs 1, 2, and 4-13 inclusive and predominantly 20-30 m for CAs 3 and 14-19 inclusive). All CAs are preferable to EA42 hydrogeologically.
COMPLEXITY OF SOILS	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	EA42 has more complex soils (portion uniform and portion sandy) than CAs 1-3 inclusive, 5, 9-13 inclusive, 15, 18, and 19 which have universally uniform soils.
LAKE BREEZES	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	EA42 is affected by lake breezes (2 and 5 km). All 19 CAs are preferable to EA42 for atmospheric dispersion.
TOPOGRAPHIC INFLUENCE	E	E	E	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	EA42 has a topographic influence similar to CAs 1-3 inclusive. 16 CAs (4-19 inclusive) have no topographic influence and are preferable to EA42 for atmospheric dispersion.
URBAN HEAT ISLANDS	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	EA42 is affected by an urban heat island. All 19 CAs are preferable to EA42 for atmospheric dispersion.
DISTANCE FROM CATEGORY 1 (KM)	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	Although EA42 is closer (0-10 km) to category 1 waters than all 19 CAs, 3 CAs (12, 13, and 19) are within 10 km of category 1.
TRAVEL TIME (MINUTES) FROM CENTROID	G	G	G	G	G	G	L	G	G	G	L	L	L	G	G	G	E	G	L	EA42 is generally farther from the centroid (45-60 min.) than 13 CAs (1-6 inclusive, 8-10 inclusive, 14-16 inclusive, and 18) and an equivalent distance to 1 CA (17).
TRAVEL TIME (MINUTES) FROM 400-SERIES HIGHWAYS	E	L	E	E	L	L	L	L	L	L	L	L	E	E	L	L	L	L	E	Although EA42 is generally closer (<10 min.) to 400-series highways than CAs 2, 5-12 inclusive, and 15-18 inclusive, 6 CAs (1, 3, 4, 13, 14, and 19) are as close to 400-series highways (<10 min.); and no CA is more than 30 min. distant.
SOIL CAPABILITY CLI CLASSES	L	L	L	L	L	L	L	E	L	E	L	G	G	L	L	L	E	E	G	EA42 has a lower class of soil (predominantly Class 2) than 12 CAs (1-7 inclusive, 9, 11, and 14-16 inclusive) and approximately equivalent classes of soil to 4 CAs (8, 10, 17 and 18).

SPECIALTY AGRICULTURE	E E E E L L E L L L L E E E E L E L E	Although EA42 has limited specialty agriculture, 11 CAs (1-4 inclusive, 7, 12-15 inclusive, 17, and 19) also have limited specialty agriculture.
% TOWNSHIP IN FARMING	L L L G L L L L L L L L G G L L L L G	Although EA42 has a lower % township in farming (predominantly <40% and some 60-80%) than 15 CAs, 4 CAs (4, 13, 14, and 19) have a lower % township in farming than EA42.
CAPITAL VALUE PER ACRE ($)	G G G L G G G G G G G G L G G G G G	EA42 has a higher capital value/acre (predominantly >$9000 and some $6000-$9000) than 17 CAs (1-3 inclusive, 5-13 inclusive, and 15-19 inclusive).
ANNUAL SALES PER IMPROVED ACRE ($)	G G G G G G G G G G G G G G G G G G G	EA42 has higher annual sales/improved acre (>$900) than all 19 CAs.
PROXIMITY TO URBAN BUILT-UP AREAS (KM)	L L L L L L L L L L L L L L L L L L L	EA42 is closer to an urban built-up area (within St. Catharines) than all 19 CAs. All CAs ranging in distance from <1 to <14 km from urban built-up areas are preferable to EA42 and offer a variety of options for site selection.
RURAL POPULATION DENSITY (PERSONS/KM^2)	G G G G G G G G G G G G G G G G G G G	EA42 has a greater rural population density (>40 persons/km^2) than all 19 CAs.
PUBLICLY OWNED LAND	G E G G E G G G G G G G G G G G G G G	Although EA42 has some publicly owned land within its boundaries, 2 CAs (2 and 5) contain publicly owned land; and 1 CA (3) appears to have publicly owned land immediately adjacent.
INDUSTRIALLY DESIGNATED LAND	G G G E G E E G G G G G E G G G G E G	Although EA42 contains some industrially designated lands, 5 CAs (4, 6, 7, 13, and 18) contain industrially designated lands; and 3 CAs (12, 14, and 19) appear adjacent to industrially designated lands.

SUMMARY: EA42 was primarily excluded for its location within a major built-up area (St. Catharines). It has also poor atmospheric dispersion because of its 2 and 5 km lake breezes, topographic influence, and urban heat island. EA42 also has a higher capital value/acre (predominantly >$9000 and some $6000-$9000) and greater annual sales/improved acre (>$900) than most CAs. Although EA42 has some publicly owned land within its boundaries, 2 CAs (2 and 5) contain publicly owned land as well. Although EA42 contains industrially designated lands, 5 CAs (4, 6, 7, 13, and 18) also contain industrially designated lands. EA42 has no other preferred characteristic that is not possessed by some CAs.

L = LESSER G = GREATER E = EQUIVALENT

EXCLUDED AREA 43 (EA43)

CHARACTERISTICS	CANDIDATE AREAS (CAs) 1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	COMMENTS
DEPTH OF SILT/ CLAY SOILS (METRES)	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	EA43 has less soil depth (<10 m) than all CAs (predominantly 10-20 m for CAs 1, 2, and 4-13 inclusive and predominantly 20-30 m for CAs 3 and 14-19 inclusive). All CAs are preferable to EA 43 hydrogeologically.
COMPLEXITY OF SOILS	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	EA43 has more complex soils with a sand or bedrock underlayer than CAs 1-3 inclusive, 5, 9-13 inclusive, 15, 18, and 19 which have uniform soils and CAs 4, 6-8 inclusive, 14, 16, and 17 which have locally intermixed soils. All CAs are preferable to EA43 hydrogeologically.
LAKE BREEZES	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	EA43 and all CAs are not affected by lake breezes. All 19 CAs are comparable to EA43 for atmospheric dispersion.
TOPOGRAPHIC INFLUENCE	L	L	L	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	Although EA43 has no topographic influence, neither do CAs 4-19 inclusive. 16 CAs (4-19 inclusive) are comparable to EA43 for atmospheric dispersion.
URBAN HEAT ISLANDS	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	EA43 is affected by an urban heat island. All 19 CAs are preferable to EA43 for atmospheric dispersion.
DISTANCE FROM CATEGORY 1 (KM)	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	Although EA43 is closer (0-5 km) to category 1 waters than all 19 CAs, 3 CAs (12, 13, and 19) are within 10 km of category 1.
TRAVEL TIME (MINUTES) FROM CENTROID	G	G	G	G	G	G	G	G	G	G	L	L	L	G	G	G	G	G	L	EA43 is generally farther (<60 min.) from the centroid than 15 CAs (1-10 inclusive and 14-18 inclusive).
TRAVEL TIME (MINUTES) FROM 400-SERIES HIGHWAYS	E	L	E	E	L	L	L	L	L	L	L	L	E	E	L	L	L	L	E	Although EA43 is generally closer (<10 min.) to 400-series highways than CAs 2, 5-12 inclusive, and 15-18 inclusive, 6 CAs (1, 3, 4, 13, 14, and 19) are as close to 400-series highways (<10 min.); and no CA is more than 30 min. distant.
SOIL CAPABILITY CLI CLASSES	L	L	L	L	L	L	L	L	L	G	L	G	G	L	L	L	G	G	G	EA43 has a lower class of soil (Class 2) than 12 CAs (1-9 inclusive, 11, and 14-16 inclusive).

SPECIALTY AGRICULTURE	E E E E L L E L L L L E E E E L E L E	Although EA43 has limited specialty agriculture, 11 CAs (1-4 inclusive, 7, 12-15 inclusive, 17, and 19) also have limited specialty agriculture.
% TOWNSHIP IN FARMING	L L L E L L L L L L L L E L L L L L E	Although EA43 has less township farming activity (<40%) than the majority of CAs, 3 CAs (4, 13, and 19) also have <40% of the township in farming. CAs 7, 14, 16, and 18 also have portions of <40% township farming activity. CAs 2, 3, 9, 10, 12, and 18 have portions of 40-59% township in farming.
CAPITAL VALUE PER ACRE ($)	L L L L L L L E L L E E L L L L E L E	Although EA43 has a lower capital value/acre (<$3000) than 14 CAs, 5 CAs (8, 11, 12, 17, and 19) have an equivalent capital value/acre.
ANNUAL SALES PER IMPROVED ACRE ($)	L L L L L L L L L L L L L L L L L L L	Although EA43 has lower annual sales/improved acre (<$300) than all CAS, 6 CAs (7, 12, 13, 16, 17, and 19) have predominantly <$300 annual sales/improved acre.
PROXIMITY TO URBAN BUILT-UP AREAS (KM)	L L L L L L L L L L L L L L L L L L L	EA43 is closer to an urban built-up area (within Niagara Falls) than all 19 CAs. All CAs ranging in distance from <1 to <14 km from urban built-up areas are preferable to EA43 and offer a variety of options for site selection.
RURAL POPULATION DENSITY (PERSONS/KM^2)	L L L E L L L L L L L L L L L E L L L	Although EA43 has a lower rural population density (0-19 persons/km^2) than the majority of CAs, 2 CAs (4 and 16) have the same rural population density (0-19 persons/km^2); and 6 CAs (7, 10, 13, 14, 16, and 19) have large portions of 0-19 persons/km^2 densities.
PUBLICLY OWNED LAND	E L E E L E E E E E E E E E E E E E E	2 CAs (2 and 5) contain publicly owned land, and 1 CA (3) appears immediately adjacent to publicly owned land. EA43 has no publicly owned land similar to 17 CAs.
INDUSTRIALLY DESIGNATED LAND	E E E L E L L E E E E E L E E E E L E	EA43 has no industrially designated lands similar to 14 CAs. 5 CAs (4, 6, 7, 13, and 18) contain industrially designated lands, and 3 CAs (12, 14, and 19) appear adjacent to industrially designated lands.

SUMMARY: EA43 was primarily excluded for its location within a major built-up area (Niagara Falls). EA43 has inadequate hydrogeologic conditions (<10 m soil depth and a sand or bedrock underlayer). EA43 is also affected by an urban heat island. Although EA43 has less township farming (<40%), a lower capital value/acre (<$3000) and lower annual sales/improved acre (<$300) than most CAs, there are a number of CAs which have similar characteristics. EA43 has no other preferred characteristic that is not possessed by some CAs.

L = LESSER G = GREATER E = EQUIVALENT

EXCLUDED AREA 44 (EA44)

CHARACTERISTICS	CANDIDATE AREAS (CA) 1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	COMMENTS
DEPTH OF SILT/ CLAY SOILS (METRES)	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	EA44 has generally less soil depth (variable) than all CAs (predominantly 10-20 m for CAs 1, 2, and 4-13 inclusive and predominantly 20-30 m for CAs 3 and 14-19 inclusive). All CAs are preferable to EA44 hydrogeologically.
COMPLEXITY OF SOILS	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	EA44 has more complex soils (sandy) than CAs 1-3 inclusive, 5, 9-13 inclusive, 15, 18, and 19 which have uniform soils and CAs 4, 6-8 inclusive, 14, 16, and 17 which have locally intermixed soils. All CAs are preferable to EA44 hydrogeologically.
LAKE BREEZES	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	EA44 is affected by lake breezes (2 and 5 km). All 19 CAs are comparable to EA44 for atmospheric dispersion.
TOPOGRAPHIC INFLUENCE	L	L	L	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	Although EA44 has no topographic influence, neither do CAs 4-19 inclusive. 16 CAs (4-19 inclusive) are comparable to EA44 for atmospheric dispersion.
URBAN HEAT ISLANDS	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	EA44 is affected by urban heat islands. All 19 CAs are preferable to EA44 for atmospheric dispersion.
DISTANCE FROM CATEGORY 1 (KM)	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	Although EA44 is closer (0-5 km) to category 1 waters than all 19 CAs, 3 CAs (12, 13, and 19) are within 10 km of category 1.
TRAVEL TIME (MINUTES) FROM CENTROID	G	G	G	G	G	G	G	G	G	G	L	L	G	G	G	G	G	G	L	EA44 is farther from the centroid (<60-75 min.) than 15 CAs (1-10 inclusive and 14-18 inclusive).
TRAVEL TIME (MINUTES) FROM 400-SERIES HIGHWAYS	E	L	E	E	L	L	L	L	L	L	L	L	E	E	L	L	L	L	E	Although EA44 is generally closer (<10 min.) to 400-series highways than CAs 2, 5-12 inclusive, and 15-18 inclusive, 6 CAs (1, 3, 4, 13, 14, and 19) are as close to 400-series highways (<10 min.); and no CA is more than 30 min. distant.
SOIL CAPABILITY CLI CLASSES	L	L	L	L	L	L	L	G	L	G	L	G	G	L	L	L	L	L	E	EA44 has a lower class of soil (Class 2 and Class 3 with an area of Other Classes) than 14 CAs (1-7 inclusive, 9, 11, and 14-18 inclusive) and approximately equivalent classes of soil to 1 CA (19).

SPECIALTY AGRICULTURE	E E E E L L E L L L L E E E E L E L E	Although EA44 has limited specialty agriculture, 11 CAs (1-4 inclusive, 7, 12-15 inclusive, 17, and 19) also have limited specialty agriculture.
% TOWNSHIP IN FARMING	L L L E L L L L L L L L E L L L L L E	Although EA44 has less farming activity (<40%) than the majority of CAs, 3 CAs (4, 13, and 19) also have <40% of the township in farming. CAs 7, 14, 16, and 18 have portions of <40% township farming activity. CAs 1, 2, 3, 9, 10, 12, and 18 have portions of 40-59% township in farming.
CAPITAL VALUE PER ACRE ($)	L L L L L L L E L L E E L L L L E L E	Although EA44 has a lower capital value/acre (<$3,000) than 14 CAs, 5 CAs (8, 11, 12, 17, and 19) have an equivalent capital value/acre.
ANNUAL SALES PER IMPROVED ACRE ($)	L L L L L L L L L L L L L L L L L L L	Although EA44 has lower annual sales/improved acre (<$300) than all CAs, 6 CAs (7, 12, 13, 16, 17, and 19) have predominantly <$300 annual sales/improved acre.
PROXIMITY TO URBAN BUILT-UP AREAS (KM)	L L L L L L L L L L L L L L L L L L L	EA44 is closer to an urban built-up area (within Niagara Falls) than all 19 CAs. All CAs ranging in distance from <1 to <14 km from urban built-up areas are preferable to EA44 and offer a variety of options for site selection.
RURAL POPULATION DENSITY (PERSONS/KM^2)	L L L E L L L L L L L L L L L E L L L	Although EA44 has a lower rural population density (0-19 persons/km^2) than the majority of CAs, 2 CAs (4 and 16) have the same rural population density (0-19 persons/km^2); and 6 CAs (7, 10, 13, 14, 16, and 19) have large portions of 0-19 persons/km^2 densities.
PUBLICLY OWNED LAND	E L E E L E E E E E E E E E E E E E	Two CAs (2 and 5) contain publicly owned land, and 1 CA (3) appears immediately adjacent to publicly owned land. EA44 has no publicly owned land similar to 17 CAs.
INDUSTRIALLY DESIGNATED LAND	E E E L E L L E E E E E L E E E E L E	EA44 has no industrially designated lands similar to 14 CAs, although it appears to be adjacent to industrially designated lands. 5 CAs (4, 6, 7, 13, and 18) contain industrially designated lands, and 3 CAs (12, 14, and 19) appear adjacent to industrially designated lands.

SUMMARY: EA44 was primarily excluded for its location within a major built-up area (Niagara Falls). EA44 also has inadequate hydrogeologic conditions (variable soil depth and sandy soils). EA44 offers poor atmospheric dispersion because it is affected by 2 and 5 km lake breezes and an urban heat island. Although EA44 has less township farming activity (<40%), a lower capital value/acre (<$3,000) and lower annual sales/improved acre (<$300) than most CAs, there are a number of CAs with similar characteristics. EA44 has no other preferred characteristic that is not possessed by some CAs.

L = LESSER G = GREATER E = EQUIVALENT

EXCLUDED AREA 45 (EA45)

CHARACTERISTICS	CANDIDATE AREAS (CA) 1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	COMMENTS
DEPTH OF SILT/ CLAY SOILS (METRES)	E	E	L	E	E	E	E	L	E	E	E	E	E	L	L	L	L	L	L	EA45 has less soil depth (10-20 m) than 8 CAs (3, 8, and 14-19 inclusive) and generally similar soil depth to the remainder of CAs (1, 2, 4-7 inclusive, and 9-13 inclusive).
COMPLEXITY OF SOILS	E	E	E	L	E	L	L	L	E	E	E	E	E	L	E	L	L	E	E	Although EA45 has less complex soils (uniform) than 7 CAs, 12 CAs (1-3 inclusive, 5, 9-13 inclusive, 15, 18, and 19) have similar soils.
LAKE BREEZES	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	EA45 is affected by lake breezes (2 and 5 km). All 19 CAs are preferable to EA45 for atmospheric dispersion.
TOPOGRAPHIC INFLUENCE	L	L	L	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	Although EA45 has no topographic influence, neither do CAs 4-19 inclusive. 16 CAs (4-19 inclusive) are comparable to EA45 for atmospheric dispersion.
URBAN HEAT ISLANDS	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	EA45 and all CAs are not affected by urban heat islands. All 19 CAs are comparable to EA45 for atmospheric dispersion.
DISTANCE FROM CATEGORY 1 (KM)	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	Although EA45 is closer (0-5 km) to category 1 waters than all 19 CAs, 3 CAs (12, 13, and 19) are within 10 km of category 1.
TRAVEL TIME (MINUTES) FROM CENTROID	G	G	G	G	G	G	G	G	G	L	L	E	G	G	G	G	G	E		EA45 is generally farther from the centroid (60-75 min.) than 15 CAs (1-10 inclusive and 14-18 inclusive) and equally as far as 2 CAs (13 and 19).
TRAVEL TIME (MINUTES) FROM 400-SERIES HIGHWAYS	E	L	E	E	L	L	L	L	L	L	L	E	E	L	L	L	L	E		Although EA45 is generally closer (<10 min.) to 400-series highways than CAs 2, 5-12 inclusive, and 15-18 inclusive, 6 CAs (1, 3, 4, 13, 14, and 19) are as close to 400-series highways (<10 min.); and no CA is more than 30 min. distant.
SOIL CAPABILITY CLI CLASSES	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	EA45 has a lower class of soil (Class 3) than all 19 CAs.

SPECIALTY AGRICULTURE	E E E E L L E L L L L E E E E L E L E	Although EA45 has limited specialty agriculture, 11 CAs (1-4 inclusive, 7, 12-15 inclusive, 17, and 19) also have limited specialty agriculture.
% TOWNSHIP IN FARMING	L L L E L L L L L L L L E L L L L L E	Although EA45 has less township farming activity (<40%) than the majority of CAs, 3 CAs (4, 13, and 19) also have <40% of the township in farming. CAs 7, 14, 16, and 18 have portions of <40% township farming activity, and CAs 1, 2, 3, 9, 10, 12, and 18 have portions of 40-59% township in farming.
CAPITAL VALUE PER ACRE ($)	L L L L L L L E L L E E L L L L E L E	Although EA45 has a lower capital value/acre (<$3,000) than 14 CAs, 5 CAs (8, 11, 12, 17, and 19) have an equivalent capital value/acre.
ANNUAL SALES PER IMPROVED ACRE ($)	L L L L L L L L L L L L L L L L L L L	Although EA45 has lower annual sales/improved acre (<$300) than all CAs, 6 CAs (7, 12, 13, 16, 17, and 19) have predominantly <$300 annual sales/improved acre.
PROXIMITY TO URBAN BUILT-UP AREAS (KM)	G L L G G L L L G G L E E G E L L E L	EA45 is somewhat closer to an urban built-up area (<2 km Niagara Falls) than 9 CAs (2, 3, 6, 7, 8, 11, 16, 17, and 19). 6 CAs (1, 4, 5, 9, 10, and 14) are somewhat closer to urban built-up areas than EA45, and 4 CAs (12, 13, 15, and 18) are an approximately equivalent distance. The CAs provide a range of options for site selection.
RURAL POPULATION DENSITY (PERSONS/KM^2)	L L L E L L L L L L L L L L L L E L L L	Although EA45 has a lower rural population density (0-19 persons/km^2) than the majority of CAs, 2 CAs (4 and 16) have the same rural population density (0-19 persons/km^2); and 6 CAs (7, 10, 13, 14, 16, and 19) have large portions of 0-19 persons/km^2 densities.
PUBLICLY OWNED LAND	E L E E L E E E E E E E E E E E E E E	Two CAs (2 and 5) contain publicly owned land, and 1 CA (3) appears immediately adjacent to publicly owned land. EA45 has no publicly owned land similar to 17 CAs.
INDUSTRIALLY DESIGNATED LAND	G G G E G E E G G G G G E G G G G E G	Although EA45 contains industrially designated land, 5 CAs (4, 6, 7, 13, and 18) contain industrially designated lands; and 3 CAs (12, 14, and 19) appear adjacent to industrially designated lands.

SUMMARY: EA45 was primarily excluded for its proximity to a major built-up area (Niagara Falls). EA45 also offers poor atmospheric dispersion because it is affected by 2 and 5 km lake breezes. Although EA45 has less township farming activity (<40%), a lower capital value/acre (<$3,000), and lower annual sales/improved acre (<$300) than most CAs, a number of CAs have similar characteristics. Although EA45 contains industrially designated land, 5 CAs (4, 6, 7, 13, and 18) also contain industrially designated lands. EA45 has no other preferred characteristic that is not possessed by some CAs.

L = LESSER G = GREATER E = EQUIVALENT

EXCLUDED AREA 46 (EA46)

CHARACTERISTICS	CANDIDATE AREAS (CA) 1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	COMMENTS
DEPTH OF SILT/ CLAY SOILS (METERS)	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	EA46 has less soil depth (<10 m) than all CAs (predominantly 10-20 m for CAs 1, 2, and 4-13 inclusive and predominantly 20-30 m for CAs 3 and 14-19 inclusive). All CAs are preferable to EA46 hydrogeologically.
COMPLEXITY OF SOILS	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	EA46 has more complex soils with a sand or bedrock underlayer than CAs 1-3 inclusive, 5, 9-13 inclusive, 15, 18, and 19 which have uniform soils and CAs 4, 6-8 inclusive, 14, 16, and 17 which have locally intermixed soils. All CAs are preferable to EA46 hydrogeologically.
LAKE BREEZES	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	EA46 is affected by lake breezes (2 and 5 km). All 19 CAs are preferable to EA46 for atmospheric dispersion.
TOPOGRAPHIC INFLUENCE	L	L	L	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	Although EA46 has no topographic influence, neither do CAs 4-19 inclusive. 16 CAs (4-19 inclusive) are comparable to EA46 for atmospheric dispersion.
URBAN HEAT ISLANDS	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	EA46 and all CAs are not affected by urban heat islands. All 19 CAs are comparable to EA46 for atmospheric dispersion.
DISTANCE FROM CATEGORY 1 (KM)	L	L	L	L	L	L	L	L	L	L	L	E	E	L	L	L	L	L	E	Although EA46 is generally closer (5-10 km) to category 1 waters than 16 CAs, 3 CAs (12, 13, and 19) are an equivalent distance from category 1.
TRAVEL TIME (MINUTES) FROM CENTROID	G	G	G	G	G	G	G	G	G	G	E	E	G	G	G	G	G	G	G	EA46 is generally farther from the centroid (75-90 min.) than 17 CAs (1-10 inclusive and 13-19 inclusive).
TRAVEL TIME (MINUTES) FROM 400-SERIES HIGHWAYS	E	L	E	E	L	L	L	L	L	L	L	L	E	E	L	L	L	L	E	Although EA46 is generally closer (<10 min.) to 400-series highways than CAs 2, 5-12 inclusive, and 15-18 inclusive, 6 CAs (1, 3, 4, 13, 14, and 19) are as close to 400-series highways (<10 min.); and no CA is more than 30 min. distant.
SOIL CAPABILITY CLI CLASSES	L	L	L	L	L	L	L	L	L	G	L	G	G	L	L	L	G	G	G	EA46 has a lower class of soil (Class 2) than 13 CAs (1-9 inclusive, 11, and 14-16 inclusive).

SPECIALTY AGRICULTURE	E E E E L L E L L L L E E E E L E L E	Although EA46 has limited specialty agriculture, 11 CAs (1-4 inclusive, 7, 12-15 inclusive, 17, and 19) also have limited specialty agriculture.
% TOWNSHIP IN FARMING	L L L E L L L L L L L L E L L L L L E	Although EA46 has less township farming activity (<40%) than the majority of CAs, 3 CAs (4, 13, and 19) also have <40% of the township in farming. CAs 7, 14, 16, and 18 also have portions of <40% township farming activity. CAs 1, 2, 3, 9, 10, 12, and 18 have portions of 40-59% township in farming.
CAPITAL VALUE PER ACRE ($)	L L L L L L L E L L E E L L L L E L E	Although EA46 has a lower capital value/acre (<$3,000) than 14 CAs, 5 CAs (8, 11, 12, 17, and 19) have an equivalent capital value/acre.
ANNUAL SALES PER IMPROVED ACRE ($)	L L L L L L L L L L L L L L L L L L L	Although EA46 has lower annual sales/improved acre (<$300) than all CAs, 6 CAs (7, 12, 13, 16, 17, and 19) have predominantly <$300 annual sales/improved acre.
PROXIMITY TO URBAN BUILT-UP AREAS (KM)	L L L L L L L L L L L L L L L L L L L	EA46 is closer to an urban built-up area (within Fort Erie) than all 19 CAs. All CAs ranging in distance from <1 to <14 km from urban built-up areas are preferable to EA46 and offer a variety of options for site selection.
RURAL POPULATION DENSITY (PERSONS/KM^2)	G G G G G G G G G G G G G G G G G G G	EA46 has a greater rural population density (>40 persons/km^2) than all 19 CAs.
PUBLICLY OWNED LAND	E L E E L E E E E E E E E E E E E E E	Two CAs (2 and 5) contain publicly owned land, and 1 CA (3) appears immediately adjacent to publicly owned land. EA46 has no publicly owned land similar to 17 CAs.
INDUSTRIALLY DESIGNATED LAND	E E E L E L L E E E E E L E E E E L E	EA46 has no industrially designated land similar to 14 CAs. 5 CAs (4, 6, 7, 13, and 18) contain industrially designated lands, and 3 CAs (12, 14, and 19) appear adjacent to industrially designated lands.

SUMMARY: EA46 was primarily excluded for its location within a built-up area (Fort Erie). EA46 also has inadequate hydrogeologic conditions (<10 m soil depth and a sand or bedrock underlayer). EA46 offers poor atmospheric dispersion because it is affected by 2 and 5 km lake breezes. Although EA46 has less township farming activity (<40%), a lower capital value/acre (<$3000), and lower annual sales/improved acre (<$300) than most CAs, a number of CAs have similar characteristics. EA46 has no other preferred characteristic that is not possessed by some CAs.

L = LESSER G = GREATER E = EQUIVALENT

APPENDIX D

ROLE OF OWMC PUBLIC CONSULTATION PROGRAM

ROLE OF OWMC PUBLIC CONSULTATION PROGRAM

As described in Chapter 2 of the OWMC Phase 3 Interim Report, OWMC mounted an extensive public consultation program during the January to April, 1983 period. This program consisted of four public consultation efforts:

1) a continuation of meetings with four provincial groups, each representing a number of organizations;

2) a series of regional meetings in central locations throughout the Golden Horseshoe area;

3) a weekend seminar held in Niagara-on-the-Lake; and

4) additional meetings to accommodate groups and individuals who could not meet with OWMC in one of the regional public meetings.

Prior to these meetings it had been assumed that candidate areas would be selected on the basis of air dispersion, sewage treatment and predictable soil conditions. It had further been expected that candidate sites would be selected on the basis of land use factors. First priority was to be given to industrially designated lands, second priority to publicly owned lands, and third priority to private lands. The selection of preferred sites was to be based on a range of environmental, transportation and land use factors as follows:

Environmental Factors:

- no perennial streams or floodlands
- no rare of endangered species
- no sites of high archaeological or historical interest
- proximity to sewage treatment plant
- no adverse local air dispersal effects

- soils must provide natural containment
- no slopes in excess of 20°;

Transportation Factors:

- near major provincial highways
- access routes with minimum residential use
- minimal need for bridges, culverts and engineering to upgrade access;

Land Use Factors:

- respect for present land use/activities
- minimal number of landowners
- respect for present land use plans and zoning.

As the OWMC Interim Phase 3 Report points out, general themes which emerged from the meetings (with the exception of the weekend seminar at Niagara-on-the-Lake) included:

o a general endorsement of the process;

o strong support for the prominence of environmental and human health factors;

o the need to consider proximity to waste generation;

o the need to consider prime agricultural land, particularly soft fruit lands;

o the importance of locating in hydrogeologic zones in the Golden Horseshoe; many argued not in the Niagara Peninsula;

o the possibility of looking outside the Golden Horseshoe;

- the need to consider socio-economic factors;

- the need to broaden the definition of land use.

The weekend seminar at Niagara-on-the-Lake resulted in a great many general and specific comments regarding the search and selection issues. The results of this seminar are detailed in an OWMC document entitled Seminar on Industrial Waste Management, Niagara-on-the-Lake, February 11-13, 1983.

Some of the key comments and recommendations made at the seminar included the following:

- a reinforcement of the importance of:
  - predictable soils conditions, especially for the landfill
  - air dispersion, especially for the incinerator
  - proximity to sewage treatment facilities, especially for the physical/chemical treatment plant;

- a need to consider earlier in the process:
  - proximity to generators
  - the local and regional access system
  - biological concerns;

- a need to broaden the consideration of existing and future land use, in candidate site identification, beyond the emphasis on industrially designated lands;

- a need to incorporate into the search and selection process:
  - social and economic considerations
  - agricultural capability and use
  - population density
  - proximity to populations
  - proximity to water supplies

- municipal finance
- seismic zones
- visibility and aesthetic impacts;

o the importance of not ruling out areas or sites on the basis of cost.

The implications of these comments and suggestions for both candidate area identification and for subsequent site selection stages are highlighted in Table D.1.

TABLE D.1

Site Selection Implications of Public Comments

COMMENTS	IMPLICATIONS
Meetings Comments	
° prominence of environmental and human health factors	° human health and environmental factors to receive greater emphasis in all subsequent site selection stages
° the need to consider proximity to waste generation	° built in as a factor in candidate area identification (i.e. travel time from theoretical centroid); also to be considered in subsequent site selection stages
° the need to consider prime agricultural land, particularly soft fruit lands	° consideration of specialty agricultural crops as potentially exclusionary factor in candidate area identification ° build in soil capability for agriculture as a factor in candidate area identification ° also to be considered in subsequent site selection stages
° the importance of locating in suitable hydrogeologic zones	° hydrogeologic categories built in as a factor in candidate area identification ° to be considered in subsequent site selection stages ° particular emphasis placed on locating in candidate areas outside the Niagara Peninsula; contributed to the decision to undertake an additional level of hydrogeologic investigations in Area A-1
° the need to consider socio-economic factors	° urban built-up area, agriculture and rural population densities built in as factors in candidate area identification ° a wider range of socio-economic factors to be built in to subsequent site selection stages

TABLE D.1

Site Selection Implications of Public Comments

COMMENTS	IMPLICATIONS
Niagara-on-the-Lake Seminar Comments	
° reinforcement of importance of predictable soil conditions, especially for the landfill	° use of hydrogeologic factors in candidate area identification ° greater depth requirements for landfills ° hydrogeologic concerns to receive continuing consideration in subsequent site selection stages
° reinforcement of air dispersion especially for the incinerator	° use of atmospheric distinctions in candidate area identification ° atmospheric constraints exclusionary for incinerator and potentially exclusionary for other components
° reinforcement of proximity to sewage treatment facilities especially for the physical/chemical treatment plant	° proximity to suitable surface waters built in as factor in candidate area identification ° proximity to sewage treatment facilities not used as possibility of direct discharge from facility to suitable receiving body
° a need to consider proximity to generators earlier in the process	° use of travel time from theoretical centroid as a factor in candidate area identification ° proximity to sources and associated risks also to be considered in subsequent site selection stages
° a need to consider the local and regional access system earlier in the process	° use of travel time from 400-series highway as a factor in candidate area identification ° local and regional access system also to be considered in subsequent site selection stages
° a need to consider biological concerns earlier in the process	° consideration of biological impacts to be incorporated in candidate site identification process

TABLE D.1

Site Selection Implications of Public Comments

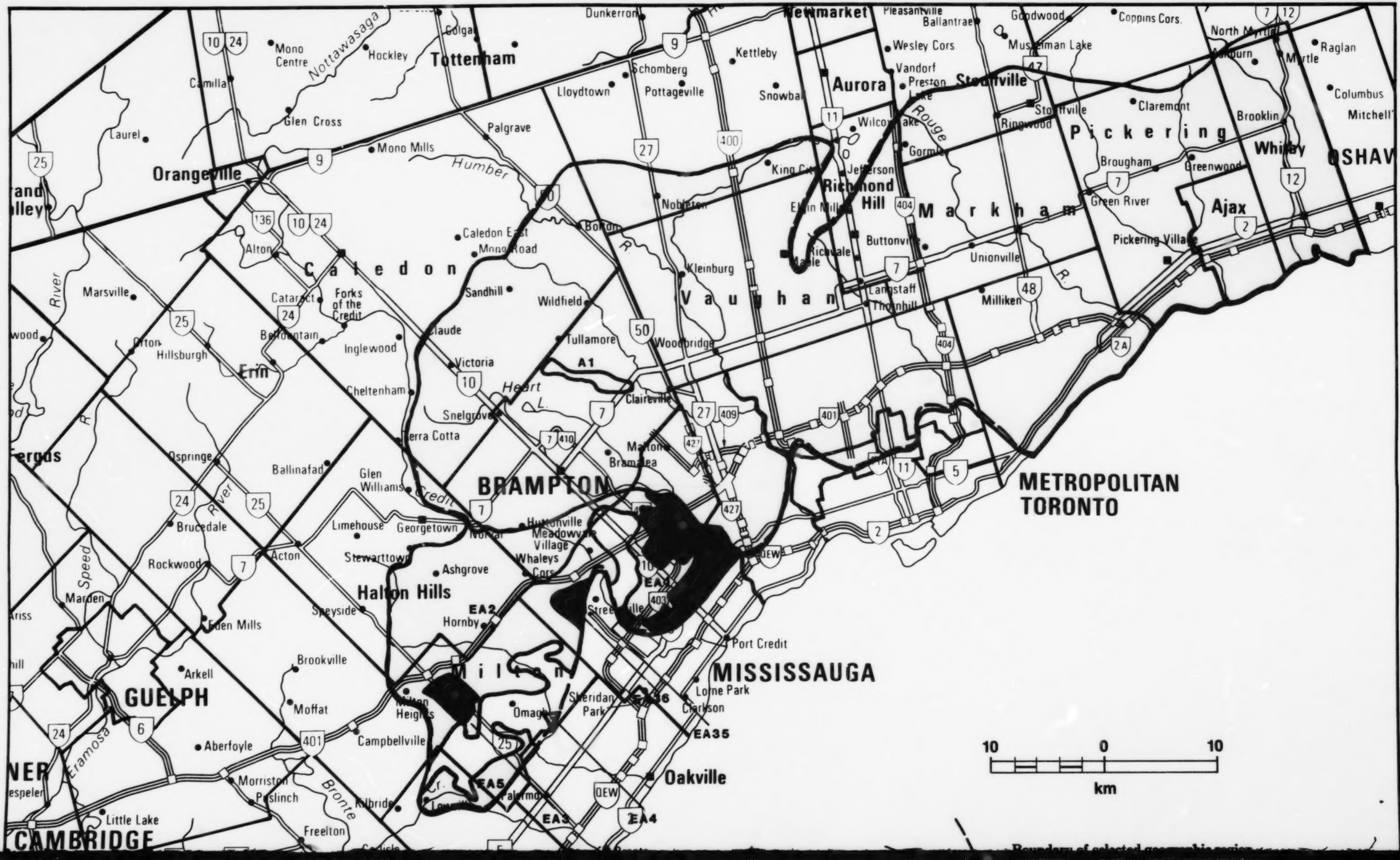
COMMENTS	IMPLICATIONS
Niagara-on-the-Lake Seminar Comments (cont'd)	
° a need to broaden the consideration of existing and future land use beyond the emphasis on industrially designated lands	° urban built-up areas, agriculture and rural population densities built in as factors in candidate area identification ° a wider range of land use factors to be built in to subsequent site selection stages
° the need to incorporate social and economic considerations	° urban built-up areas, agriculture and rural population densities built in as factors in candidate area identification ° a wider range of social and economic factors to be built in to subsequent site selection stages
° the need to incorporate agricultural capability and use considerations	° specialty agricultural crops and soil capability for agriculture built in as factors in candidate area identification ° agriculture also to be considered in subsequent site selection stages
° the need to incorporate population density considerations	° urban built-up areas and rural population densities built in as factors in candidate area identification ° population densities to receive ongoing consideration in subsequent site selection stages
° the need to consider proximity to population considerations	° addressed in maintenance of choice sense by urban built-up areas and rural population densities in candidate area identification ° to receive further consideration in subsequent site selection stages
° the need to consider proximity to water supplies	° to be considered once candidate sites identified providing significant siting constraint

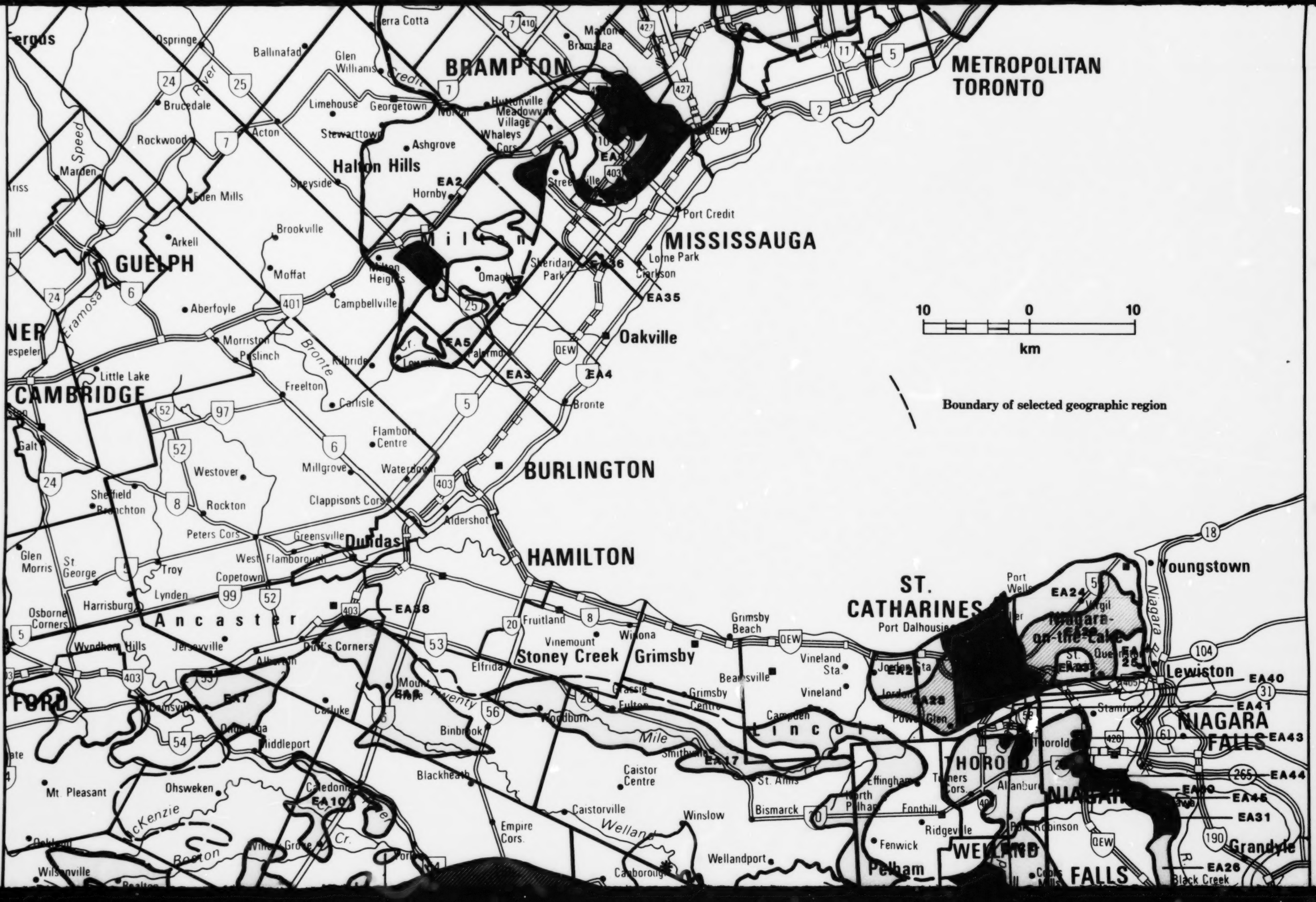
TABLE D.1

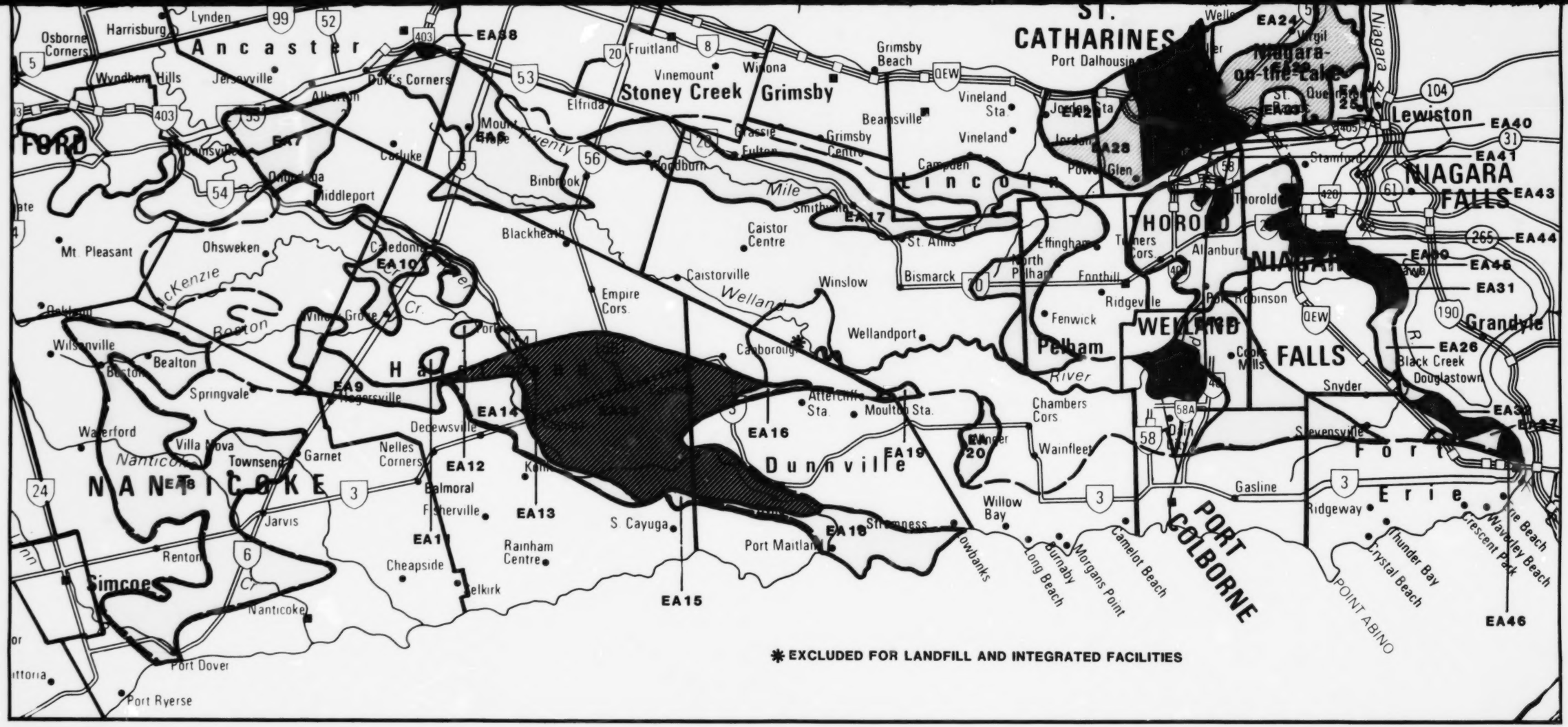
Site Selection Implications of Public Comments

COMMENTS	IMPLICATIONS
Niagara-on-the-Lake Seminar Comments (cont'd)	
° the need to consider municipal finance	° to be considered in preferred site identification
° the need to consider seismic zones	° a special study by Gartner Lee Associates Ltd. initiated
° visibility and aesthetic impacts	° to be considered in preferred site identification
° the importance of not ruling out areas or sites on the basis of cost	° cost not considered in candidate area identification ° cost to be considered of secondary importance in subsequent site selection stages

Figure 4.1 Areas Excluded for All Facility Components




METROPOLITAN TORONTO
BRAMPTON
Halton Hills
MISSISSAUGA
Oakville
BURLINGTON
HAMILTON
GUELPH
CAMBRIDGE
Ancaster
Dundas
Stoney Creek
Grimsby
ST. CATHARINES
NIAGARA FALLS
Lincoln
Milton
Fergus
Ospringe
Ballinafad
Glen Williams
Terra Cotta
Brucedale
Limehouse
Georgetown
Acton
Rockwood
Stewarttown
Ashgrove
Marden
Speyside
Hornby
Eden Mills
Brookville
Arkell
Moffat
Aberfoyle
Campbellville
Morriston
Puslinch
Little Lake
Freelton
Carlisle
Kilbride
Lowville
Palermo
Bronte
Port Credit
Lorne Park
Sheridan Park
Clarkson
Omagh
Milton Heights
Flamboro Centre
Millgrove
Waterdown
Westover
Sheffield
Rockton
Clappisons Corners
Aldershot
Peters Corners
Greensville
West Flamborough
Copetown
Troy
Lynden
Harrisburg
Glen Morris
St George
Osborne Corners
Wyndham Hills
Jerseyville
Dunn's Corners
Carluke
Binbrook
Middleport
Mt Pleasant
Ohsweken
Caledonia
Elfrida
Mount Hope
Fruitland
Winona
Vinemount
Grassie
Fulton
Grimsby Centre
Woodburn
Smithville
Caistor Centre
Caistorville
Blackheath
Empire Corners
Winslow
Wellandport
Cainsborough
Bismarck
St. Anns
Effingham
North Pelham
Fonthill
Ridgeville
Fenwick
Pelham
Port Robinson
Welland
Thorold
Allanburg
Port Dalhousie
Grimsby Beach
Beamsville
Vineland Sta.
Vineland
Jordan Sta.
Jordan
Jordan Harbour
Powerglen
Campden
Virgil
Niagara-on-the-Lake
St. Davids
Queenston
Youngstown
Lewiston
Stamford
Port Weller
Port Robinson
Black Creek
Grandyle
Speed River
Eramosa River
Bronte Creek
Mackenzie Creek
Boston Creek
Welland River
Niagara River
Twenty Mile Creek
QEW
EA1
EA2
EA3
EA4
EA5
EA6
EA7
EA8
EA10
EA17
EA18
EA20
EA21
EA22
EA23
EA24
EA25
EA26
EA28
EA31
EA35
EA38
EA40
EA41
EA43
EA44
EA45
EA46
10 0 10
km
Boundary of selected geographic region



✱ EXCLUDED FOR LANDFILL AND INTEGRATED FACILITIES

Legend

Primary excluding factors

- Hydrogeological conditions (A Areas)
- Specialty agriculture and atmospheric dispersion
- Atmospheric dispersion only

(B Areas)

- Transportation considerations (More than 30 minutes from 400-series highways) (C Area)
- Major built up areas (D Areas)

Table 4.4 Excluded Areas~Characteristics

Excluded	Approximate Location	Primary Excluding Factors	Environmental Protection							Land Use									Other Limitations
			Geology/ Hydrogeology		Atmospheric Dispersion			Surface Waters	Transportation Travel Time (Minutes)			Agriculture					Proximity to Urban Built-Up Areas (km)	Rural Population Density (persons/km2)	Publicly Owned Land	Industrially Designated Land	
			Depth of Silt/Clay Soils (Metres)	Complexity of Soils	Lake Breezes	Topo graphic Influence	Urban Heat Islands	Distance from Category 1 (km)	From Centroid	From 400 Series Highways	Soil Capability CLI Classes	Specialty Agricultural	% Township in Farming	Capital Value Per Acre ($)	Annual Sales Per Improved Acre ($)					
EA1	CITY OF MISSISSAUGA	HYDROGEOLOGIC CONDITIONS	<10 Portions 10-20 Portions 20-30	Underlain by sand or bedrock	NO	NO	NO	5-15	<30-45	<10	Predominantly Class 1 Area of Class 3	Limited	<40	>9000	300-599	<1 (Mississauga) <4 (Brampton)	0-19	None	Yes (North Portion of Excluded Area)	. Proximity to urban built-up areas
EA2	TOWN OF MILTON TOWN OF HALTON HILLS CITY OF MISSISSAUGA CITY OF BRAMPTON	HYDROGEOLOGIC CONDITIONS	Predominantly Variable Portions <10	Sandy Underlain by sand or bedrock	NO	YES	NO	10-35	<15-45	<10	Predominantly Class 1 Areas of Class 2, Class 3, and Other Classes	Scattered	60-80 (Milton) 60-80 (Halton Hills) <40 (Mississauga) 40-59 (Brampton)	3000-5999 (Milton) 3000-5999 (Halton Hills) >9000 (Mississauga) >9000 (Brampton)	600-900 (Milton) 300-599 (Halton Hills) 300-599 (Mississauga) 300-599 (Brampton)	<1 (Milton) <1 (Brampton) <1 (Mississauga)	20-40 (Milton and Halton Hills) 0-19 (Mississauga) >40 (Brampton)	Yes (South Portion of Excluded Area) Immediately Adjacent (North Portion of Excluded Area)	Yes (Central Portion of Excluded Area)	. Topographic influence . Proximity to urban built-up areas
EA3	TOWN OF MILTON	HYDROGEOLOGIC CONDITIONS	Predominantly <10 Portion 10-20	Underlain by sand or bedrock Uniform	NO	NO	NO	15-20	<15-30	<10	Class 1	Limited	60-80	3000-5999	600-900	<1 (Milton)	20-40	None	None	. Agricultural use . Proximity to urban built-up areas
EA4	TOWN OF MILTON	HYDROGEOLOGIC CONDITIONS	<10	Underlain by sand or bedrock	NO	NO	NO	10-15	15-30	<10	Class 1 and Class 4	Limited	60-80	3000-5999	600-900	<8 (Oakville) <6 (Milton)	20-40	Yes (North, West, and South Portions of Excluded Area)	None	. Agricultural use
EA5	CITY OF BURLINGTON TOWN OF MILTON	HYDROGEOLOGIC CONDITIONS	<10 (East Portion) Variable (West Portion)	Underlain by sand or bedrock Sandy	NO	YES	NO	10-20	<15	10-20	Predominantly Class 1 Area of Class 2	Limited	40-59 (Burlington) 60-80 (Milton)	6000-9000 (Burlington) 3000-5999 (Milton)	300-599 (Burlington) 600-900 (Milton)	<10 (Burlington) <10 (Oakville) <6 (Milton)	20-40 (Milton and Burlington)	Yes (Northeast Portion of Excluded Area)	None	. Topographic influence . Travel time from 400-series highways
EA6	TOWN OF ANCASTER TOWNSHIP OF GLANBROOK TOWN OF HALDIMAND	HYDROGEOLOGIC CONDITIONS	Variable	Sandy	NO	NO	NO	15-25	<30-60	<10-20	Predominantly Class 1 Areas of Class 2	Concentrated (Northwest Portion) Some Scattered	60-80 (Ancaster) Predominantly 60-80 (Glanbrook) >80 (Haldimand)	3000-5999 (Ancaster) Predominantly <3000 (Glanbrook) <3000 (Haldimand)	300-599 (Ancaster) Predominantly 300-599 (Glanbrook) <300 (Haldimand)	<4 (Hamilton)	20-40 (Ancaster and Haldimand) >40 (Glanbrook)	Yes (Central Portion of Excluded Area)	Yes (Central Portion of Excluded Area)	. Specialty agriculture . Agricultural use . Proximity to urban built-up areas
EA7	TOWN OF ANCASTER TOWNSHIP OF BRANTFORD TOWNSHIP OF ONONDAGA TUSCARORA/SIX NATIONS INDIAN RESERVE NO. 40	HYDROGEOLOGIC CONDITIONS	Variable	Sandy	NO	NO	NO	25-35	30-60	<10	Predominantly Class 1 Area of Class 2	Limited	60-80 (Ancaster) 60-80 (Brantford Township) >80 (Onondaga) <40 (Indian Reserves)	3000-5999 (Ancaster) 3000-5999 (Brantford Township) <3000 (Onondaga) <3000 (Indian Reserves)	300-599 (Ancaster) 300-599 (Brantford Township) 300-599 (Onondaga) <300 (Indian Reserves)	<6 (Brantford) <12 (Hamilton)	20-40 (Ancaster and Indian Reserves) ? (Brantford) 0-19 (Onondaga)	None	Immediately Adjacent (Northeast Portion of Excluded Area)	. Agricultural use
EA8	CITY OF NANTICOKE	HYDROGEOLOGIC CONDITIONS	Predominantly Variable <10 (East-Central Portion)	Sandy Underlain by sand or bedrock	YES 2 km (South Tip) 5 km (South Edge)	NO	NO	5-35	60-90	<20-50	Predominantly Class 2 Areas of Class 1, Class 4, and Other Classes	Concentrated (North Portion) Scattered (West Portion)	>80	<3000	300-599	<40 (Hamilton) <14 (Brantford)	20-40	Yes (Central Portion of Excluded Area)	Yes (East and South-west Portions of Excluded Area)	. Lake breezes . Travel time from 400-series highways . Specialty agriculture . Agricultural use
EA9	TUSCARORA/SIX NATIONS INDIAN RESERVE NO. 40 NEW CREDIT INDIAN RESERVE NO. 40A	HYDROGEOLOGIC CONDITIONS	<10	Underlain by sand or bedrock	NO	NO	NO	20-35	45-75	<20-40	Class 1 and Class 2 Area of Other Classes	Limited	<40 (Indian Reserves) Predominantly >80	<3000 (Indian Reserves) Predominantly <3000	<300 (Indian Reserves) Predominantly	<20 (Brantford) <30	20-40 (Reserves, Haldimand, and Nanticoke)	None	None	. Travel time from 400-series highways . Agricultural use

EA4	TOWN OF MILTON	HYDROGEOLOGIC CONDITIONS	<10	Underlain by sand or bedrock	NO	NO	NO	10-15	15-30	<10	Class 1 and Class 4	Limited	60-80	3000-5999	600-900	<8 (Oakville) <6 (Milton)	20-40	Yes (North, West, and South Portions of Excluded Area)	None	. Agricultural use
EA5	CITY OF BURLINGTON TOWN OF MILTON	HYDROGEOLOGIC CONDITIONS	<10 (East Portion) Variable (West Portion)	Underlain by sand or bedrock Sandy	NO	YES	NO	10-20	<15	10-20	Predominantly Class 1 Area of Class 2	Limited	40-59 (Burlington) 60-80 (Milton)	6000-9000 (Burlington) 3000-5999 (Milton)	300-599 (Burlington) 600-900 (Milton)	<10 (Burlington) <10 (Oakville) <6 (Milton)	20-40 (Milton and Burlington)	Yes (Northeast Portion of Excluded Area)	None	. Topographic influence . Travel time from 400-series highways
EA6	TOWN OF ANCASTER TOWNSHIP OF GLANBROOK TOWN OF HALDIMAND	HYDROGEOLOGIC CONDITIONS	Variable	Sandy	NO	NO	NO	15-25	<30-60	<10-20	Predominantly Class 1 Areas of Class 2	Concentrated (Northwest Portion) Some Scattered	60-80 (Ancaster) Predominantly 60-80 (Glanbrook) >80 (Haldimand)	3000-5999 (Ancaster) Predominantly <3000 (Glanbrook) <3000 (Haldimand)	300-599 (Ancaster) Predominantly 300-599 (Glanbrook) <300 (Haldimand)	<4 (Hamilton)	20-40 (Ancaster and Haldimand) >40 (Glanbrook)	Yes (Central Portion of Excluded Area)	Yes (Central Portion of Excluded Area)	. Specialty agriculture . Agricultural use . Proximity to urban built-up areas
EA7	TOWN OF ANCASTER TOWNSHIP OF BRANTFORD TOWNSHIP OF ONONDAGA TUSCARORA/SIX NATIONS INDIAN RESERVE NO. 40	HYDROGEOLOGIC CONDITIONS	Variable	Sandy	NO	NO	NO	25-35	30-60	<10	Predominantly Class 1 Area of Class 2	Limited	60-80 (Ancaster) 60-80 (Brantford Township) >80 (Onondaga) <40 (Indian Reserves)	3000-5999 (Ancaster) 3000-5999 (Brantford Township) <3000 (Onondaga) <3000 (Indian Reserves)	300-599 (Ancaster) 300-599 (Brantford Township) 300-599 (Onondaga) <300 (Indian Reserves)	<6 (Brantford) <12 (Hamilton)	20-40 (Ancaster and Indian Reserves) ? (Brantford) 0-19 (Onondaga)	None	Immediately Adjacent (Northeast Portion of Excluded Area)	. Agricultural use
EA8	CITY OF NANTICOKE	HYDROGEOLOGIC CONDITIONS	Predominantly Variable <10 (East-Central Portion)	Sandy Underlain by sand or bedrock	YES 2 km (South Tip) 5 km (South Edge)	NO	NO	5-35	60-90	<20-50	Predominantly Class 2 Areas of Class 1, Class 4, and Other Classes	Concentrated (North Portion) Scattered (West Portion)	>80	<3000	300-599	<40 (Hamilton) <14 (Brantford)	20-40	Yes (Central Portion of Excluded Area)	Yes (East and South-west Portions of Excluded Area)	. Lake breezes . Travel time from 400-series highways . Specialty agriculture . Agricultural use
EA9	TUSCARORA/SIX NATIONS INDIAN RESERVE NO. 40 NEW CREDIT INDIAN RESERVE NO. 40A TOWN OF HALDIMAND CITY OF NANTICOKE	HYDROGEOLOGIC CONDITIONS	<10	Underlain by sand or bedrock	NO	NO	NO	20-35	45-75	<20-40	Class 1 and Class 2 Area of Other Classes	Limited	<40 (Indian Reserves) Predominantly >80 (Haldimand) >80 (Nanticoke)	<3000 (Indian Reserves) Predominantly <3000 (Haldimand) <3000 (Nanticoke)	<300 (Indian Reserves) Predominantly <300 (Haldimand) 300-599 (Nanticoke)	<20 (Brantford) <30 (Hamilton)	20-40 (Reserves, Haldimand, and Nanticoke)	None	None	. Travel time from 400-series highways . Agricultural use
EA10	TOWN OF HALDIMAND TUSCARORA/SIX NATIONS INDIAN RESERVE NO. 40 TOWNSHIP OF ONONDAGA	HYDROGEOLOGIC CONDITIONS	<10	Underlain by sand or bedrock	NO	NO	NO	25-35	45-60	10-30	Predominantly Class 1 Areas of Class 2	Limited	Predominantly >80 (Haldimand) <40 (Indian Reserve) >80 (Onondaga)	Predominantly <3000 (Haldimand) <3000 (Indian Reserve) <3000 (Onondaga)	Predominantly <300 (Haldimand) <300 (Indian Reserve) 300-599 (Onondaga)	<20 (Brantford) <20 (Hamilton)	20-40 (Haldimand and Reserve) 0-19 (Onondaga)	None	Appears Adjacent (North-Central Portion of Excluded Area	. Travel time from 400-series highways . Agricultural use
EA11	TOWN OF HALDIMAND	HYDROGEOLOGIC CONDITIONS	<10	Underlain by sand or bedrock	NO	NO	NO	20-25	60	20-30	Class 1	Limited	>80	<3000	<300	<30 (Brantford) <30 (Hamilton)	20-40	None	None	. Travel time from 400-series highways . Agricultural use
EA12	TOWN OF HALDIMAND	HYDROGEOLOGIC CONDITIONS	<10	Underlain by sand or bedrock	NO	NO	NO	25-30	45-60	20-30	Class 1	Limited	>80	<3000	<300	<30 (Brantford) <25 (Hamilton)	20-40	None	None	. Travel time from 400-series highways . Agricultural use
EA13	TOWN OF HALDIMAND	HYDROGEOLOGIC CONDITIONS	<10	Underlain by sand or bedrock	NO	NO	NO	20-30	45-60	20-30	Class 1	Limited	>80	<3000	<300	<35 (Brantford) <25 (Hamilton)	20-40	None	None	. Travel time from 400-series highways . Agricultural use
EA14	TOWN OF HALDIMAND	HYDROGEOLOGIC CONDITIONS	<10	Underlain by sand or bedrock	NO	NO	NO	10-25	60-75	30-50	Predominantly Class 1 Area of Class 2	Limited	>80	<3000	<300	<30 (Hamilton)	20-40	Yes (Southeast Portion of Excluded Area)	None	. Travel time from 400-series highways . Agricultural use
EA15	TOWN OF HALDIMAND TOWN OF DUNNVILLE	HYDROGEOLOGIC CONDITIONS	<10	Underlain by sand or bedrock	YES Predominantly 5 km	NO	NO	5-15	60-75	40-50	Class 2	Limited	Predominantly >80 60-80 (Dunnville)	Predominantly <3000 <3000 (Dunnville)	Predominantly <300 300-599 (Dunnville)	<40 (Hamilton) <40 (Port Colborne)	20-40 (Haldimand and Dunnville)	Yes (Entire Excluded Area)	None	. Lake breeze . Travel time from 400-series highways . Agricultural use
EA16	TOWN OF DUNNVILLE	HYDROGEOLOGIC CONDITIONS	Variable	Sandy	NO	NO	NO	15-20	60-75	30	Class 2	Limited	60-80	<3000	300-599	<30 (Welland) <35 (Hamilton)	20-40	None	None	. Travel time from 400-series highways
EA17	TOWN OF PELHAM TOWN OF LINCOLN TOWNSHIP OF WEST LINCOLN TOWNSHIP OF WAINFLEET	HYDROGEOLOGIC CONDITIONS	Predominantly <10 Portion Variable	Underlain by sand or bedrock Sandy	NO	NO	NO	5-20	30-75	<10-20	Predominantly Class 2 Areas of Class 1 and Class 4	Concentrated (East Portion) Scattered (Throughout)	40-59 (Pelham) 60-80 (Lincoln) Predominantly >80 (West Lincoln)	3000-5999 (Pelham) 6000-9000 (Lincoln) Predominantly <3000 (West Lincoln)	600-900 (Pelham) >900 (Lincoln) Predominantly 300-599 (West Lincoln)	<6 (St. Catharines) <6 (Welland) <6 (Hamilton)	20-40 (Pelham, West Lincoln, and Wainfleet) >40 (Lincoln and Glanbrook)	None	Yes (Central Portion of Excluded Area)	. Travel time from 400-series highways . Specialty agriculture . Agricultural use . Rural population density

EA15	TOWN OF HALDIMAND TOWN OF DUNNVILLE	HYDROGEOLOGIC CONDITIONS	<10	Underlain by sand or bedrock	YES Predominantly 5 km	NO	NO	5-15	60-75	40-50	Class 2	Limited	Predominantly >80 60-80 (Dunnville)	Predominantly <3000 <3000 (Dunnville)	Predominantly <300 300-599 (Dunnville)	<40 (Hamilton) <40 (Port Colborne)	20-40 (Haldimand and Dunnville)	Yes (Entire Excluded Area)	None	. Lake breeze . Travel time from 400-series highways . Agricultural use
EA16	TOWN OF DUNNVILLE	HYDROGEOLOGIC CONDITIONS	Variable	Sandy	NO	NO	NO	15-20	60-75	30	Class 2	Limited	60-80	<3000	300-599	<30 (Welland) <35 (Hamilton)	20-40	None	None	. Travel time from 400-series highways
EA17	TOWN OF PELHAM TOWN OF LINCOLN TOWNSHIP OF WEST LINCOLN TOWNSHIP OF WAINFLEET TOWNSHIP OF GLANBROOK	HYDROGEOLOGIC CONDITIONS	Predominantly <10 Portion Variable	Underlain by sand or bedrock Sandy	NO	NO	NO	5-20	30-75	<10-20	Predominantly Class 2 Areas of Class 1 and Class 4	Concentrated (East Portion) Scattered (Throughout)	40-59 (Pelham) 60-80 (Lincoln) Predominantly >80 (West Lincoln) 60-80 (Wainfleet and Glanbrook)	3000-5999 (Pelham) 6000-9000 (Lincoln) Predominantly <3000 (West Lincoln) <3000 (Wainfleet and Glanbrook)	600-900 (Pelham) >900 (Lincoln) Predominantly 300-599 (West Lincoln) 300-599 (Wainfleet and Glanbrook)	<6 (St. Catharines) <6 (Welland) <6 (Hamilton)	20-40 (Pelham, West Lincoln, and Wainfleet) >40 (Lincoln and Glanbrook)	None	Yes (Central Portion of Excluded Area)	. Travel time from 400-series highways . Specialty agriculture . Agricultural use . Rural population density
EA18	TOWN OF DUNNVILLE	HYDROGEOLOGIC CONDITIONS	<10	Underlain by sand or bedrock	YES 5 km (South Portion) 2 km (Remainder)	NO	NO	0-10	60-90	40	Predominantly Class 2 Area of Class 4	Limited	60-80	<3000	300-599	<20 (Port Colborne)	20-40	Yes (West Portion of Excluded Area)	Yes (Central Portion of Excluded Area)	. Lake breezes . Travel time from 400-series highways . Agricultural use
EA19	TOWN OF DUNNVILLE TOWNSHIP OF WAINFLEET	HYDROGEOLOGIC CONDITIONS	Variable	Sandy	NO	NO	NO	15-20	60-75	20-30	Predominantly Class 4 Area of Class 2	Limited	60-80 (Dunnville and Wainfleet)	<3000 (Dunnville and Wainfleet)	300-599 (Dunnville and Wainfleet)	<20 (Welland)	20-40 (Dunnville and Wainfleet)	None	None	. Travel time from 400-series highways . Agricultural use
EA20	TOWNSHIP OF WAINFLEET	HYDROGEOLOGIC CONDITIONS	Variable	Sandy	YES 5 km (South Tip)	NO	NO	5-15	60-90	20-30	Predominantly Class 1 Areas of Class 2, Class 4, and Class 3	Concentrated (West Portion)	60-80	<3000	300-599	<14 (Welland) <14 (Port Colborne)	20-40	None	None	. Lake breeze . Travel time from 400-series highways . Specialty agriculture . Agricultural use
EA21	CITY OF ST. CATHARINES TOWN OF LINCOLN	HYDROGEOLOGIC CONDITIONS	Variable	Sandy	YES (2 and 5 km)	YES	NO	0-10	<45-60	<10	Predominantly Class 2 Area of Class 3	Concentrated (Entire Excluded Area)	<40 (St. Catharines) 60-80 (Lincoln)	>9000 (St. Catharines) 6000-9000 (Lincoln)	>900 (St. Catharines) >900 (Lincoln)	<1 (St. Catharines)	>40 (St. Catharines and Lincoln)	Yes (East Portion of Excluded Area)	Appears Adjacent (Central Portion of Excluded Area)	. Lake breezes . Topographic influence . Specialty agriculture . Proximity to urban built-up areas . Rural population density
EA22	CITY OF THOROLD CITY OF WELLAND CITY OF PORT COLBORNE CITY OF NIAGARA FALLS TOWN OF FORT ERIE	HYDROGEOLOGIC CONDITIONS	Predominantly Variable Portion <10	Sandy Underlain by sand or bedrock	YES 5 km (East Tip)	NO	YES	0-15	45-90	<10-20	Class 2 and Class 3 Areas of Other Classes	Scattered	<40 (Thorold) <40 (Welland) 40-59 (Port Colborne) <40 (Niagara Fal.s and Fort Erie)	3000-5999 (Thorold) <3000 (Welland) <3000 (Port Colborne) <3000 (Niagara Falls and Fort Erie)	300-599 (Thorold) 300-599 (Welland) <300 (Port Colborne) <300 (Niagara Falls and Fort Erie)	Includes Parts of St. Catharines <1 (Welland)	20-40 (Thorold, Welland, and Port Colborne) 0-19 (Niagara Falls) >40 (Fort Erie)	Yes (North and Central Portions of Excluded Area)	Yes (North and West-Central Portions of Excluded Area)	. Lake breeze . Urban heat island . Proximity to urban built-up areas
EA23	TOWN OF NIAGARA-ON-THE-LAKE (Near St. Davids)	HYDROGEOLOGIC CONDITIONS	<10	Underlain by sand or bedrock	NO	YES	NO	5-10	45-60	<10	Class 1 and Class 4	Concentrated (West and Central Portions)	60-80	6000-9000	>900	<4 (St. Catharines)	>40	None	Yes (Southwest Portion of Excluded Area)	. Topographic influence . Specialty agriculture . Agricultural use . Proximity to urban built-up areas . Rural population density
EA24	TOWN OF NIAGARA-ON-THE-LAKE CITY OF ST. CATHARINES	HYDROGEOLOGIC CONDITIONS	Variable	Sandy	YES 2 and 5 km	NO	NO	0-10	45-75	<10-20	Class 2 and Class 3	Concentrated (West and Central Portions)	Predominantly 60-80 (Niagara-on-the-Lake) <40 (St. Catharines)	Predominantly 6000-9000 (Niagara-on-the-Lake) >9000 St. Catharines)	Predominantly >900 (Niagara-on-the-Lake) >900 (St. Catharines)	Includes Niagara-on the-Lake) <1 (St. Catharines)	>40 (Niagara-on-the-Lake and St. Catharines)	Yes (West, East, and South-Central Portions of Excluded Area)	Yes (West Portion of Excluded Area)	. Lake breezes . Specialty agriculture . Agricultural use . Proximity to urban built-up areas . Rural population density
EA25	TOWN OF NIAGARA-ON THE-LAKE (Queenston)	HYDROGEOLOGIC CONDITIONS	<10	Underlain by sand or bedrock	YES 2 and 5 km (East Portion)	YES	NO	0-5	<60-75	<10	Class 2 and Class 4	Concentrated (North Portion)	60-80	6000-9000	>900	<6 (Niagara Falls) <10 (St. Catharines)	>40	None	None	. Lake breezes . Topographic influence . Specialty agriculture . Agricultural Use . Rural population density
EA26	CITY OF NIAGARA FALLS TOWN OF FORT ERIE	HYDROGEOLOGIC CONDITIONS	<10	Underlain by sand or bedrock	YES 2 and 5 km (East Portion)	NO	NO	5-10	60-75	<10	Class 3	Limited	<40 (Niagara Falls and Fort Erie)	<3000 (Niagara Falls and Fort Erie)	<300 Niagara Falls and Fort Erie)	<8 (Niagara Falls) <8 (Fort Erie)	0-19 (Niagara Falls) >40 (Fort Erie)	None	Yes (Southwest Portion of Excluded Area)	. Lake breezes
EA27	TOWN OF FORT ERIE	HYDROGEOLOGIC CONDITIONS	<10	Underlain by sand or bedrock	YES 2 and 5 km (North and East Portions)	NO	NO	5-10	75	<10	Predominantly Class 2 Area of Class 3	Limited	<40	<3000	<300	<1 (Fort Erie)	>40	None	None	. Lake breezes . Rural population density

	CITY OF NIAGARA FALLS TOWN OF FORT ERIE												(Port Colborne) <40 (Niagara Fal.s and Fort Erie)	(Port Colborne) <3000 (Niagara Falls and Fort Erie)	(Port Colborne) <300 (Niagara Falls and Fort Erie)		>40 (Fort Erie)			
EA23	TOWN OF NIAGARA-ON-THE-LAKE (Near St. Davids)	HYDROGEOLOGIC CONDITIONS	<10	Underlain by sand or bedrock	NO	YES	NO	5-10	45-60	<10	Class 1 and Class 4	Concentrated (West and Central Portions)	60-80	6000-9000	>900	<4 (St. Catharines)	>40	None	Yes (Southwest Portion of Excluded Area)	. Topographic influence . Specialty agriculture . Agricultural use . Proximity to urban built-up areas . Rural population density
EA24	TOWN OF NIAGARA-ON-THE-LAKE CITY OF ST. CATHARINES	HYDROGEOLOGIC CONDITIONS	Variable	Sandy	YES 2 and 5 km	NO	NO	0-10	45-75	<10-20	Class 2 and Class 3	Concentrated (West and Central Portions)	Predominantly 60-80 (Niagara-on-the-Lake) <40 (St. Catharines)	Predominantly 6000-9000 (Niagara-on-the-Lake) >9000 (St. Catharines)	Predominantly >900 (Niagara-on-the-Lake) >900 (St. Catharines)	Includes Niagara-on the-Lake) <1 (St. Catharines)	>40 (Niagara-on-the-Lake and St. Catharines)	Yes (West, East, and South-Central Portions of Excluded Area)	Yes (West Portion of Excluded Area)	. Lake breezes . Specialty agriculture . Agricultural use . Proximity to urban built-up areas . Rural population density
EA25	TOWN OF NIAGARA-ON THE-LAKE (Queenston)	HYDROGEOLOGIC CONDITIONS	<10	Underlain by sand or bedrock	YES 2 and 5 km (East Portion)	YES	NO	0-5	<60-75	<10	Class 2 and Class 4	Concentrated (North Portion)	60-80	6000-9000	>900	<6 (Niagara Falls) <10 (St. Catharines)	>40	None	None	. Lake breezes . Topographic influence . Specialty agriculture . Agricultural Use . Rural population density
EA26	CITY OF NIAGARA FALLS TOWN OF FORT ERIE	HYDROGEOLOGIC CONDITIONS	<10	Underlain by sand or bedrock	YES 2 and 5 km (East Portion)	NO	NO	5-10	60-75	<10	Class 3	Limited	<40 (Niagara Falls and Fort Erie)	<3000 (Niagara Falls and Fort Erie)	<300 Niagara Falls and Fort Erie)	<8 (Niagara Falls) <8 (Fort Erie)	0-19 (Niagara Falls) >40 (Fort Erie)	None	Yes (Southwest Portion of Excluded Area)	. Lake breezes
EA27	TOWN OF FORT ERIE	HYDROGEOLOGIC CONDITIONS	<10	Underlain by sand or bedrock	YES 2 and 5 km (North and East Portions)	NO	NO	5-10	75	<10	Predominantly Class 2 Area of Class 3	Limited	<40	<3000	<300	<1 (Fort Erie)	>40	None	None	. Lake breezes . Rural population density
EA28	CITY OF ST. CATHARINES TOWN OF LINCOLN	SPECIALTY AGRICULTURE AND ATMOSPHERIC DISPERSION	>30	Uniform	YES 5 km (North Portion)	YES	YES	0-10	45-60	<10	Class 2, Class 1 and Class 3	Concentrated (Throughout Excluded Area)	Predominantly <40 (St. Catharines) 60-80 (Lincoln)	Predominantly >9000 (St. Catharines) 6000-9000 (Lincoln)	Predominantly >900 (St. Catharines) >900 (Lincoln)	<1 (St. Catharines)	>40 (St. Catharines and Lincoln)	Yes (North Portion of Excluded Area)	Yes (Northeast and Central Portions of Excluded Area)	. Proximity to urban built-up areas . Rural population density
EA29	TOWN OF NIAGARA-ON-THE-LAKE	SPECIALTY AGRICULTURE AND ATMOSPHERIC DISPERSION	10-20	Uniform	YES 2 km (East Portion) 5 km (North Portion)	YES	NO	0-10	45-75	<10-20	Class 4 and Class 3 Areas of Class 1 and Class 2	Concentrated (Throughout Excluded Area)	60-80	6000-9000	>900	<1 (Niagara-on-the-Lake) <1 (St. Catharines)	>40	Yes (West Portion of Excluded Area)	Yes (Southwest Portion of Excluded Area)	. Agricultural use . Proximity to urban built-up areas . Rural population density
EA30	CITY OF NIAGARA FALLS	ATMOSPHERIC DISPERSION ONLY	10-20	Uniform	YES 2 and 5 km	NO	NO	0-5	60-75	<10	Predominantly Class 3 Area of Class 2	Limited	<40	<3000	<300	<1 (Niagara Falls)	0-19	None	Yes (West and South Portions of Excluded Area)	. Proximity to urban built-up area
EA31	CITY OF NIAGARA FALLS	ATMOSPHERIC DISPERSION ONLY	10-20	Uniform	YES 2 and 5 km	NO	NO	0-10	60-75	<10	Class 3	Limited	<40	<3000	<300	<8 (Niagara Falls)	0-19	None	None	. Proximity to urban built-up area
EA32	TOWN OF FORT ERIE	ATMOSPHERIC DISPERSION ONLY	10-20	Uniform	YES 2 and 5 km	NO	NO	5-10	75	<10	Class 3 Area of Class 2	Limited	<40	<3000	<300	<2 (Fort Erie)	>40	None	Appears Adjacent (Northwest Portion of Excluded Area)	. Proximity to urban built-up area . Rural population density
EA33	TOWN OF HALDIMAND TOWN OF DUNNVILLE	TRANSPORTATION CONSIDERATIONS (More than 30 minutes from 400-series highways)	10-20 Portions 20-30	Locally Intermixed Locally Intermixed	YES 5 km (South Portion)	NO	NO	5-25	45-75	30-50	Predominantly Class 2 Areas of Class 1 and Class 4	Limited	Predominantly >80 (Haldimand) 60-80 (Dunnville)	Predominantly <3000 (Haldimand) <3000 (Dunnville)	Predominantly <300 (Haldimand) 300-599 (Dunnville)	<25 (Hamilton)	20-40 (Haldimand and Dunnville)	Yes (Southeast Portion of Excluded Area)	None	. Lake breeze . Agicultural use
EA34	CITY OF MISSISSAUGA	MAJOR BUILT-UP AREA	<10	Underlain by sand or bedrock	YES 5 km (South-east Edge)	NO	YES	5-20	<30-45	<10	Predominantly Class 1 Areas of Class 3 and Other Classes	Limited	<40	>9000	300-599	Within Mississauga	0-19	Yes (Northwest Portion of Excluded Area)	Yes (North, Southwest and Southeast Portions of Excluded Area)	. Hydrogeologic conditions . Lake breeze
EA35	CITY OF MISSISSAUGA	MAJOR BUILT-UP AREA	<10	Underlain by sand or bedrock	NO	NO	NO	10-15	<30	<10	Class 1	Limited	<40	>9000	300-599	Within Mississauga (Streetsville)	0-19	None	None	. Hydrogeologic conditions
EA36	CITY OF MISSISSAUGA	MAJOR BUILT-UP AREA	<10	Underlain by sand or bedrock	NO	NO	NO	15-20	<30	<10	Class 1	Limited	<40	>9000	300-599	Within Mississauga (Streetsville)	0-19	None	Yes (East Portion of Excluded Area)	. Hydrogeologic conditions
EA37	TOWN OF MILTON	MAJOR BUILT-UP AREA	Predominantly <10 Portion Variable	Underlain by sand or bedrock Sandy	NO	YES	NO	15-25	<15-30	<10	Class 1	Limited	60-80	3000-5999	600-900	Within Milton	20-40	Yes (East Portion of Excluded Area)	Yes (North, Central, and Southwest Portions of Excluded Area)	. Hydrogeologic conditions . Topographic influence
EA38	TOWN OF ANCASTER	MAJOR BUILT-UP AREA	Variable	Sandy	NO	NO	NO	15-20	<30	<10	Class 2	Limited	60-80	3000-5999	300-599	<4 Within Ancaster	20-40	None	None	. Hydrogeologic conditions

Table 4.6 Candidate Areas~Characteristics

CANDIDATE AREA	APPROXIMATE LOCATION	POSSIBLE FACILITY COMPONENTS			ENVIRONMENTAL PROTECTION						LAND USE								
					GEOLOGY/ HYDROGEOLOGY		ATMOSPHERIC DISPERSION	SURFACE WATERS	TRANSPORTATION		AGRICULTURE					PROXIMITY TO TO URBAN BUILT-UP AREAS (KM)	RURAL POPULATION DENSITY (PERSONS/SQ. KM)	PUBLICLY OWNED LAND	INDUSTRIALLY DESIGNATED LAND
		ENGINEERED LANDFILL	INCINERATOR	PHYSICAL/ CHEMICAL PLANT	DEPTH OF SILT/CLAY SOILS (METERS)	COMPLEXITY OF SOILS	TOPOGRAPHIC INFLUENCE	DISTANCE FROM CATEGORY 1 (KM)	TRAVEL TIME (MINUTES) FROM CENTROID	TRAVEL TIME (MINUTES) FROM 400-SERIES HIGHWAYS	SOIL CAPABILITY CLI CLASSES	SPECIALTY AGRICULTURE	% TWP IN FARMING	CAPITAL VALUE PER ACRE ($)	ANNUAL SALES PER IMPROVED ACRE ($)				
PHYSICAL/CHEMICAL ONLY																			
1	TOWN OF MILTON CITY OF BURLINGTON	NO	NO	YES	10-20	UNIFORM	YES	15-20	<15	<10	PREDOMINANTLY CLASS 1 SMALL AREAS OF CLASSES 2,3,4	LIMITED	60-79 (MILTON) 40-59 (BURLINGTON)	3-5999 (MILTON) 6-8999 (BURLINGTON)	6-899 (MILTON) 3-599 (BURLINGTON)	<1 (MILTON)	20-40	NONE	NONE
2	TOWN OF MILTON CITY OF BURLINGTON	NO	NO	YES	10-20	UNIFORM	YES	+15	<15	<20	CLASS 1	LIMITED	60-79 (MILTON) 40-59 (BURLINGTON)	3-5999 (MILTON) 6-8999 (BURLINGTON)	6-899 (MILTON) 3-599 (BURLINGTON)	·3'2 (MILTON)	20-40	CENTRAL PORTION OF CANDIDATE AREA	NONE
LANDFILL AND PHYSICAL/CHEMICAL																			
3	TOWN OF MILTON CITY OF BURLINGTON	YES	NO	YES	20-30	UNIFORM	YES	15-20	<15	<10	PREDOMINANTLY CLASS 1 SOME CLASS 4	LIMITED	60-79 (MILTON) 40-59 (BURLINGTON)	3-5999 (MILTON) 6-8999 (BURLINGTON)	6-899 (MILTON) 3-599 (BURLINGTON)	·2 (MILTON)	20-40	IMMEDIATELY ADJACENT	NONE
INCINERATOR AND PHYSICAL/CHEMICAL																			
4	CITY OF MISSISSAUGA	NO	YES	YES	PREDOMI-NANTLY 10-20	LOCALLY INTERMIXED	NO	10-15	15-45	<10	CLASS 1	LIMITED	<40	>9000	3-599	<1 (MISSISSAUGA)	0-19	NONE	YES ('4 OF CANDIDATE AREA)
5	TOWN OF MILTON	NO	YES	YES	PREDOMI-NANTLY 10-20	UNIFORM	NO	10-20	<15-30	<10-20	PREDOMINANTLY CLASS 1 SOME CLASS 2	CONCEN-TRATED (EASTERN PORTION)	60-79	3-5999	6-899	<2 (MISSISSAUGA) <1 (MILTON)	20-40	YES ('2 OF CANDIDATE AREA)	NONE
6	TOWN OF ANCASTER TOWNSHIP OF GLANBROOK	NO	YES	YES	10-20	LOCALLY INTERMIXED	NO	20-25	30-45	<10-20	PREDOMINANTLY CLASS 1 SOME CLASS 2	SCATTERED	60-79	3-5999 (ANCASTER) <3000 (GLANBROOK)	3-599	<5 (HAMILTON)	PRE-DOMINANTLY 20-40 40 - (GLANBROOK)	NONE	YES (NORTHWEST PORTION OF CANDIDATE AREA)
7	TUSCARORA/SIX NATIONS INDIAN RESERVE No. 40 NEW CREDIT INDIAN RESERVE No. 40A TOWN OF HALDIMAND CITY OF NANTICOKE TOWNSHIP OF BRANTFORD TOWNSHIP OF ONONDAGA	NO	YES	YES	10-20	LOCALLY INTERMIXED	NO	20-40	45-75	10-30	CLASS 1 & CLASS 2	LIMITED	<40 (INDIAN RESERVES) 60-79 (BRANTFORD) >80 (HALDIMAND, NANTICOKE, ONONDAGA)	PREDOMI-NANTLY <3000 3-5999 (BRANTFORD)	PREDOMI-NANTLY <300 3-599 (NANTICOKE) 6-899 (BRANTFORD)	<4 (BRANTFORD)	PRE-DOMINANTLY 20-40 0-19 (ONONDAGA)	NONE	YES (NORTHEAST PORTION OF CANDIDATE AREA)
8	TOWN OF HALDIMAND TOWN OF DUNNVILLE TOWNSHIP OF WEST LINCOLN TOWNSHIP OF GLANBROOK	NO	YES	YES	PREDOMI-NANTLY 10-20 PORTION 20-30	LOCALLY INTERMIXED LOCALLY INTERMIXED	NO	15-30	30-75	10-30	PREDOMINANTLY CLASS 2 SOME CLASS 1	SCATTERED	PREDOMI-NANTLY >80 SOME 60-79	<3000	PREDOMI-NANTLY 3-599 <300 (HALDIMAND)	>9 (STONEY CREEK)	PRE-DOMINANTLY 20-40 40 - (GLANBROOK)	NONE	NONE
9	TOWNSHIP OF GLANBROOK TOWNSHIP OF WEST LINCOLN TOWN OF LINCOLN TOWN OF PELHAM	NO	YES	YES	10-20	UNIFORM	NO	10-20	30-60	<10-20	CLASS 1 & CLASS 2	CONCEN-TRATED (NORTH-EASTERN PORTION)	PREDOMI-NANTLY >80 60-79 (WESTERN PORTION) SOME 40-59	PREDOMI-NANTLY <3000 3-5999 (PELHAM) 6-8999 (LINCOLN & WEST LINCOLN)	PREDOMI-NANTLY 3-599 900 - (WEST LINCOLN & LINCOLN) 6-899 (PELHAM)	<4 (STONEY CREEK <1 (SMITHVILLE)	PRE-DOMINANTLY 20-40 SOME 40 - (GLANBROOK & LINCOLN)	NONE	NONE
10	TOWN OF STONEY CREEK TOWN OF LINCOLN TOWNSHIP OF WEST LINCOLN	NO	YES	YES	10-20	UNIFORM	NO	10-15	30-60	<10-20	PREDOMINANTLY CLASS 2 SMALL AREAS OF CLASSES 1 & 4	SCATTERED	PREDOMI-NANTLY 40-59 SOME 60-79	PREDOMI-NANTLY 6-8999 3-5999 (STONEY CREEK)	PREDOMI-NANTLY 900 - 6-899 (STONEY CREEK) 3-599 (WEST LINCOLN)	<4 (STONEY CREEK) <5 (GRIMSBY) ·1 (SMITHVILLE) <4 (BEAMSVILLE)	0-19 (STONEY CREEK) 20-40 (WEST LINCOLN) 40 - (LINCOLN)	NONE	NONE
11	TOWNSHIP OF WAINFLEET	NO	YES	YES	10-20	UNIFORM	NO	5-15	>75	10-30	PREDOMINANTLY CLASS 1 SOME CLASS 3	SCATTERED	60-79	<3000	3-599	>4 (PORT COLBORNE) >5 (WELLAND)	20-40	NONE	NONE

Table 4.6 Candidate Areas~Characteristics

...IMATE LOCATION	POSSIBLE FACILITY COMPONENTS			ENVIRONMENTAL PROTECTION						LAND USE									SITE-IDENTIFICATION PRIORITIES
	ENGINEERED LANDFILL	INCINERATOR	PHYSICAL/ CHEMICAL PLANT	GEOLOGY/ HYDROGEOLOGY		ATMOSPHERIC DISPERSION	SURFACE WATERS	TRANSPORTATION		AGRICULTURE					PROXIMITY TO TO URBAN BUILT-UP AREAS (KM)	RURAL POPULATION DENSITY (PERSONS/SQ. KM)	PUBLICLY OWNED LAND	INDUSTRIALLY DESIGNATED LAND	
								TRAVEL TIME (MINUTES)											
				DEPTH OF SILT/CLAY SOILS (METERS)	COMPLEXITY OF SOILS	TOPOGRAPHIC INFLUENCE	DISTANCE FROM CATEGORY 1 (KM)	FROM CENTROID	FROM 400-SERIES HIGHWAYS	SOIL CAPABILITY CLI CLASSES	SPECIALTY AGRICULTURE	% TWP IN FARMING	CAPITAL VALUE PER ACRE ($)	ANNUAL SALES PER IMPROVED ACRE ($)					
					PHYSICAL/CHEMICAL ONLY														
...ON ...IGTON	NO	NO	YES	10-20	UNIFORM	YES	15-20	<15	<10	PREDOMINANTLY CLASS 1 SMALL AREAS OF CLASSES 2,3,4	LIMITED	60-79 (MILTON) 40-59 (BURLINGTON)	3-5999 (MILTON) 6-8999 (BURLINGTON)	6-899 (MILTON) 3-599 (BURLINGTON)	<1 (MILTON)	20-40	NONE	NONE	• SEWAGE TREATMENT FACILITIES • PIPELINE ALIGNMENTS AND DISCHARGE SUITABILITY • AGRICULTURE • ATMOSPHERIC DISPERSION • PLANNED AND PROPOSED LAND USES
...ON ...IGTON	NO	NO	YES	10-20	UNIFORM	YES	·15	<15	<20	CLASS 1	LIMITED	60-79 (MILTON) 40-59 (BURLINGTON)	3-5999 (MILTON) 6-8999 (BURLINGTON)	6-899 (MILTON) 3-599 (BURLINGTON)	·3'2 (MILTON)	20-40	CENTRAL PORTION OF CANDIDATE AREA	NONE	• SEWAGE TREATMENT FACILITIES • PIPELINE ALIGNMENTS AND DISCHARGE SUITABILITY • AGRICULTURE • ATMOSPHERIC DISPERSION • PLANNED AND PROPOSED LAND USES
					LANDFILL AND PHYSICAL/CHEMICAL														
...ON ...NGTON	YES	NO	YES	20-30	UNIFORM	YES	15-20	<15	<10	PREDOMINANTLY CLASS 1 SOME CLASS 4	LIMITED	60-79 (MILTON) 40-59 (BURLINGTON)	3-5999 (MILTON) 6-8999 (BURLINGTON)	6-899 (MILTON) 3-599 (BURLINGTON)	·2 (MILTON)	20-40	IMMEDIATELY ADJACENT	NONE	• AGRICULTURE • PLANNED AND PROPOSED LAND USES • PUBLIC LANDS • ATMOSPHERIC DISPERSION
					INCINERATOR AND PHYSICAL/CHEMICAL														
...SSAUGA	NO	YES	YES	PREDOMI-NANTLY 10-20	LOCALLY INTERMIXED	NO	10-15	15-45	<10	CLASS 1	LIMITED	<40	>9000	3-599	<1 (MISSISSAUGA)	0-19	NONE	YES ('4 OF CANDIDATE AREA)	• ATMOSPHERIC DISPERSION • PLANNED AND PROPOSED LAND USES • INDUSTRIALLY DESIGNATED LANDS
...ON	NO	YES	YES	PREDOMI-NANTLY 10-20	UNIFORM	NO	10-20	<15-30	<10-20	PREDOMINANTLY CLASS 1 SOME CLASS 2	CONCEN-TRATED (EASTERN PORTION)	60-79	3-5999	6-899	<2 (MISSISSAUGA) <1 (MILTON)	20-40	YES ('2 OF CANDIDATE AREA)	NONE	• ATMOSPHERIC DISPERSION • PLANNED AND PROPOSED LAND USES • PUBLICLY HELD LANDS • AGRICULTURE
...ASTER ...GLANBROOK	NO	YES	YES	10-20	LOCALLY INTERMIXED	NO	20-25	30-45	<10-20	PREDOMINANTLY CLASS 1 SOME CLASS 2	SCATTERED	60-79	3-5999 (ANCASTER) <3000 (GLANBROOK)	3-599	<5 (HAMILTON)	PRE-DOMINANTLY 20-40 40 - (GLANBROOK)	NONE	YES (NORTHWEST PORTION OF CANDIDATE AREA)	• ATMOSPHERIC DISPERSION • AGRICULTURE • INDUSTRIALLY DESIGNATED LANDS
...K NATIONS INDIAN ...DIAN RESERVE No. 40A ...MAND ...OKE ...RANTFORD ...NONDAGA	NO	YES	YES	10-20	LOCALLY INTERMIXED	NO	20-40	45-75	10-30	CLASS 1 & CLASS 2	LIMITED	<40 (INDIAN RESERVES) 60-79 (BRANTFORD) >80 (HALDIMAND, NANTICOKE, ONONDAGA)	PREDOMI-NANTLY <3000 3-5999 (BRANTFORD)	PREDOMI-NANTLY <300 3-599 (NANTICOKE) 6-899 (BRANTFORD)	<4 (BRANTFORD)	PRE-DOMINANTLY 20-40 0-19 (ONONDAGA)	NONE	YES (NORTHEAST PORTION OF CANDIDATE AREA)	• AGRICULTURE • REGIONAL ACCESS • INDUSTRIALLY DESIGNATED LANDS
...MAND ...VILLE ...EST LINCOLN ...LANBROOK	NO	YES	YES	PREDOMI-NANTLY 10-20 PORTION 20-30	LOCALLY INTERMIXED LOCALLY INTERMIXED	NO	15-30	30-75	10-30	PREDOMINANTLY CLASS 2 SOME CLASS 1	SCATTERED	PREDOMI-NANTLY >80 SOME 60-79	<3000	PREDOMI-NANTLY 3-599 <300 (HALDIMAND)	>9 (STONEY CREEK)	PRE-DOMINANTLY 20-40 40 - (GLANBROOK)	NONE	NONE	• AGRICULTURE • REGIONAL ACCESS • ATMOSPHERIC DISPERSION
...LANBROOK ...EST LINCOLN ...LN ...M	NO	YES	YES	10-20	UNIFORM	NO	10-20	30-60	<10-20	CLASS 1 & CLASS 2	CONCEN-TRATED (NORTH-EASTERN PORTION)	PREDOMI-NANTLY >80 60-79 (WESTERN PORTION) SOME 40-59	PREDOMI-NANTLY <3000 3-5999 (PELHAM) 6-8999 (LINCOLN & WEST LINCOLN)	PREDOMI-NANTLY 3-599 900 - (WEST LINCOLN & LINCOLN) 6-899 (PELHAM)	<4 (STONEY CREEK <1 (SMITHVILLE)	PRE-DOMINANTLY 20-40 SOME 40 - (GLANBROOK & LINCOLN)	NONE	NONE	• AGRICULTURE • ATMOSPHERIC DISPERSION
...EY CREEK ...LN ...EST LINCOLN	NO	YES	YES	10-20	UNIFORM	NO	10-15	30-60	<10-20	PREDOMINANTLY CLASS 2 SMALL AREAS OF CLASSES 1 & 4	SCATTERED	PREDOMI-NANTLY 40-59 SOME 60-79	PREDOMI-NANTLY 6-8999 3-5999 (STONEY CREEK)	PREDOMI-NANTLY 900 - 6-899 (STONEY CREEK) 3-599 (WEST LINCOLN)	<4 (STONEY CREEK) <5 (GRIMSBY) ·1 (SMITHVILLE) <4 (BEAMSVILLE)	0-19 (STONEY CREEK) 20-40 (WEST LINCOLN) 40 - (LINCOLN)	NONE	NONE	• AGRICULTURE • ATMOSPHERIC DISPERSION
...AINFLEET	NO	YES	YES	10-20	UNIFORM	NO	5-15	>75	10-30	PREDOMINANTLY CLASS 1 SOME CLASS 3	SCATTERED	60-79	<3000	3-599	>4 (PORT COLBORNE) >5 (WELLAND)	20-40	NONE	NONE	• AGRICULTURE • PIPELINE ALIGNMENTS AND DISCHARGE SUITABILITY • REGIONAL ACCESS

					5 km						Area of Class 2					(Niagara Falls)			(West and South Portions of Excluded Area)	built-up area
EA31	CITY OF NIAGARA FALLS	ATMOSPHERIC DISPERSION ONLY	10-20	Uniform	YES 2 and 5 km	NO	NO	0-10	60-75	<10	Class 3	Limited	<40	<3000	<300	<4 (Niagara Falls)	0-19	None	None	. Proximity to urban built-up area
EA32	TOWN OF FORT ERIE	ATMOSPHERIC DISPERSION ONLY	10-20	Uniform	YES 2 and 5 km	NO	NO	5-10	75	<10	Class 3 Area of Class 2	Limited	<40	<3000	<300	<2 (Fort Erie)	>40	None	Appears Adjacent (Northwest Portion of Excluded Area)	. Proximity to urban built-up area . Rural population density
EA33	TOWN OF HALDIMAND TOWN OF DUNNVILLE	TRANSPORTATION CONSIDERATIONS (More than 30 minutes from 400-series highways)	10-20 Portions 20-30	Locally Intermixed Locally Intermixed	YES 5 km (South Portion)	NO	NO	5-25	45-75	30-50	Predominantly Class 2 Areas of Class 1 and Class 4	Limited	Predominantly >80 (Haldimand) 60-80 (Dunnville)	Predominantly <3000 (Haldimand) <3000 (Dunnville)	Predominantly <300 (Haldimand) 300-599 (Dunnville)	<25 (Hamilton)	20-40 (Haldimand and Dunnville)	Yes (Southeast Portion of Excluded Area)	None	. Lake breeze . Agricultural use
EA34	CITY OF MISSISSAUGA	MAJOR BUILT-UP AREA	<10	Underlain by sand or bedrock	YES 5 km (South-east Edge)	NO	YES	5-20	<30-45	<10	Predominantly Class 1 Areas of Class 3 and Other Classes	Limited	<40	>9000	300-599	Within Mississauga	0-19	Yes (Northwest Portion of Excluded Area)	Yes (North, Southwest and Southeast Portions of Excluded Area)	. Hydrogeologic conditions . Lake breeze
EA35	CITY OF MISSISSAUGA	MAJOR BUILT-UP AREA	<10	Underlain by sand or bedrock	NO	NO	NO	NO	10-15	<30	<10	Class 1	Limited	<40	>9000	300-599	Within Mississauga (Streetsville)	0-19	None	None	. Hydrogeologic conditions
EA36	CITY OF MISSISSAUGA	MAJOR BUILT-UP AREA	<10	Underlain by sand or bedrock	NO	NO	NO	NO	15-20	<30	<10	Class 1	Limited	<40	>9000	300-599	Within Mississauga (Streetsville)	0-19	None	Yes (East Portion of Excluded Area)	. Hydrogeologic conditions
EA37	TOWN OF MILTON	MAJOR BUILT-UP AREA	Predominantly <10 Portion Variable	Underlain by sand or bedrock Sandy	NO	YES	NO	NO	15-25	<15-30	<10	Class 1	Limited	60-80	3000-5999	600-900	Within Milton	20-40	Yes (East Portion of Excluded Area)	Yes (North, Central, and Southwest Portions of Excluded Area)	. Hydrogeologic conditions . Topographic influence
EA38	TOWN OF ANCASTER	MAJOR BUILT-UP AREA	Variable	Sandy	NO	NO	NO	NO	15-20	<30	<10	Class 2	Limited	60-80	3000-5999	300-599	<4 within Ancaster	20-40	None	None	. Hydrogeologic conditions
EA39	CITY OF WELLAND	MAJOR BUILT-UP AREA	Predominantly >30 Portion Variable	Uniform Sandy	NO	NO	YES	NO	10-15	75	<10	Predominantly Class 3 Areas of Class 2	Limited	<40	<3000	300-599	Within Welland	20-40	Yes (Northeast Portion of Excluded Area)	Yes (Northeast, Southwest, and Southeast Portions of Excluded Area)	. Urban heat island . Travel time from 400-series highways
EA40	CITY OF THOROLD	MAJOR BUILT-UP AREA	<10	Underlain by sand or bedrock	NO	NO	NO	YES	5-10	45-60	<10	Class 2	Limited	<40	3000-5999	300-599	Within St. Catharines	20-40	None	None	. Hydrogeologic conditions . Urban heat island
EA41	CITY OF THOROLD	MAJOR BUILT-UP AREA	<10	Underlain by sand or bedrock	NO	NO	NO	NO	5-10	45-60	<10	Class 2	Limited	<40	3000-5999	300-599	Within St. Catharines	20-40	Yes (Central Portion of Excluded Area)	Yes (South Portion of Excluded Area)	. Hydrogeologic conditions
EA42	CITY OF ST. CATHARINES TOWN OF NIAGARA-ON-THE-LAKE	MAJOR BUILT-UP AREA	30 Portions 10-20 Portion Variable	Uniform Sandy	YES 2 and 5 km (North Portion)	YES	YES	NO	0-10	45-60	<10	Predominantly Class 2 Areas of Class 1 and Class 3	Limited	Predominantly <40 (St. Catharines) 60-80 (Niagara-on-the-Lake)	Predominantly >9000 (St. Catharines) 6000-9000 (Niagara-on-the-Lake)	Predominantly >900 (St. Catharines) >900 (Niagara-on-the-Lake)	Within St. Catharines	>40 (St. Catharines and Niagara-on-the-Lake)	Yes (North Portion of Excluded Area)	Yes (Southeast, Central and Northeast Portions of Excluded Area)	. Hydrogeologic conditions . Lake breezes . Topographic influence . Urban heat islands . Rural population density
EA43	CITY OF NIAGARA FALLS	MAJOR BUILT-UP AREA	<10	Underlain by sand or bedrock	NO	NO	YES	NO	0-5	<60	<10	Class 2	Limited	<40	<3000	<300	Within Niagara Falls	0-19	None	None	. Hydrogeologic conditions . Urban heat island
EA44	CITY OF NIAGARA FALLS	MAJOR BUILT-UP AREA	Variable	Sandy	YES 2 and 5 km (East Portion)	NO	YES	NO	0-5	<60-75	<10	Class 2 and Class 3 Area of Other Classes	Limited	<40	<3000	<300	Within Niagara Falls	0-19	None	Appears Adjacent (Northwest, West and Southwest Portions of Excluded Area)	. Hydrogeologic conditions . Lake breezes . Urban heat island
EA45	CITY OF NIAGARA FALLS	MAJOR BUILT-UP AREA	10-20	Uniform	YES 2 and 5 km	NO	NO	NO	0-5	60-75	<10	Class 3	Limited	<40	<3000	<300	<2 within Chippawa	0-19	None	Yes (Southwest Portion of Excluded Area)	. Lake breezes
EA46	TOWN OF FORT ERIE	MAJOR BUILT-UP AREA	<10	Underlain by sand or bedrock	YES 2 and 5 km	NO	NO	NO	5-10	75-90	<10	Class 2	Limited	<40	<3000	<300	Within Fort Erie	>40	None	None	. Hydrogeological conditions . Lake breezes . Rural population density

8	TOWN OF HALDIMAND TOWN OF DUNNVILLE TOWNSHIP OF WEST LINCOLN TOWNSHIP OF GLANBROOK	NO	YES	YES	PREDOMI-NANTLY 10-20 PORTION 20-30	LOCALLY INTERMIXED LOCALLY INTERMIXED	NO	15-30	30-75	10-30	PREDOMINANTLY CLASS 2 SOME CLASS 1	SCATTERED	PREDOMI-NANTLY >80 SOME 60-79	<3000	PREDOMI-NANTLY 3-599 <300 (HALDIMAND)	>9 (STONEY CREEK)	PRE-DOMINANTLY 20-40 40 - (GLANBROOK)	NONE	NONE
9	TOWNSHIP OF GLANBROOK TOWNSHIP OF WEST LINCOLN TOWN OF LINCOLN TOWN OF PELHAM	NO	YES	YES	10-20	UNIFORM	NO	10-20	30-60	<10-20	CLASS 1 & CLASS 2	CONCEN-TRATED (NORTH-EASTERN PORTION)	PREDOMI-NANTLY >80 60-79 (WESTERN PORTION) SOME 40-59	PREDOMI-NANTLY <3000 3-5999 (PELHAM) 6-8999 (LINCOLN & WEST LINCOLN)	PREDOMI-NANTLY 3-599 900 - (WEST LINCOLN & LINCOLN) 6-899 (PELHAM)	<4 (STONEY CREEK <1 (SMITHVILLE)	PRE-DOMINANTLY 20-40 SOME 40 - (GLANBROOK & LINCOLN)	NONE	NONE
10	TOWN OF STONEY CREEK TOWN OF LINCOLN TOWNSHIP OF WEST LINCOLN	NO	YES	YES	10-20	UNIFORM	NO	10-15	30-60	<10-20	PREDOMINANTLY CLASS 2 SMALL AREAS OF CLASSES 1 & 4	SCATTERED	PREDOMI-NANTLY 40-59 SOME 60-79	PREDOMI-NANTLY 6-8999 3-5999 (STONEY CREEK)	PREDOMI-NANTLY 900 - 6-899 (STONEY CREEK) 3-599 (WEST LINCOLN)	<4 (STONEY CREEK) <5 (GRIMSBY) -1 (SMITHVILLE) <4 (BEAMSVILLE)	0-19 (STONEY CREEK) 20-40 (WEST LINCOLN) 40 - (LINCOLN)	NONE	NONE
11	TOWNSHIP OF WAINFLEET	NO	YES	YES	10-20	UNIFORM	NO	5-15	>75	10-30	PREDOMINANTLY CLASS 1 SOME CLASS 3	SCATTERED	60-79	<3000	3-599	>4 (PORT COLBORNE) >5 (WELLAND)	20-40	NONE	NONE
12	TOWNSHIP OF WAINFLEET CITY OF PORT COLBORNE CITY OF WELLAND	NO	YES	YES	10-20	UNIFORM	NO	5-10	>75	<20	PREDOMINANTLY CLASS 3 SMALL AREA CLASS 2	LIMITED	PREDOMI-NANTLY 40-59 SOME 60-79	<3000	<300 (PORT COLBORNE) 3-599 (WAINFLEET)	-2 (PORT COLBORNE) -2 (WELLAND)	20-40	NONE	APPEARS IMMEDIATELY ADJACENT
13	CITY OF THOROLD CITY OF NIAGARA FALLS TOWN OF FORT ERIE	NO	YES	YES	10-20	UNIFORM	NO	5-10	60-75	<10	PREDOMINANTLY CLASS 3 SMALL AREAS OF CLASSES 2 & 7	LIMITED	<40	PREDOMI-NANTLY <3000 3-5999 (THOROLD)	PREDOMI-NANTLY <300 3-599 (THOROLD)	<1 (NIAGARA FALLS) <3 (FORT ERIE)	0-19 (NIAGARA FALLS) 40 - (FORT ERIE) 20-40 (THOROLD)	NONE	YES (NORTH AND SOUTH PORTIONS OF CANDIDATE AREA)
						ALL COMPONENTS													
14	CITY OF MISSISSAUGA CITY OF BRAMPTON	YES	YES	YES	20-30	LOCALLY INTERMIXED	NO	15-20	30-45	<10	CLASS 1	LIMITED	<40 (MISSISSAUGA) 40-59 (BRAMPTON)	>9000	3-599	<1 (BRAMPTON & MISSISSAUGA)	0-19 (MISSISSAUGA) 40 - (BRAMPTON)	NONE	ADJACENT
15	TOWN OF MILTON	YES	YES	YES	20-30	UNIFORM	NO	10-20	<15	<10-20	CLASS 1	LIMITED	60-79	3-5999	6-899	-2 (MILTON)	20-40	NONE	NONE
16	TOWNSHIP OF ONONDAGA SIX NATIONS INDIAN RESERVE No 40 TOWN OF ANCASTER TOWNSHIP OF GLANBROOK TOWN OF HALDIMAND	YES	YES	YES	20-30	LOCALLY INTERMIXED	NO	20-40	30-60	<10-20	PREDOMINANTLY CLASS 1 SOME CLASS 2	SCATTERED	60-79 (NORTHERN PORTION) >80 (CENTRAL PORTION) <40 (SOUTHERN PORTION)	PREDOMI-NANTLY <3000 3-5999 (ANCASTER)	PREDOMI-NANTLY <300 3-599 (ANCASTER & GLANBROOK)	<7 (HAMILTON)	PRE-DOMINANTLY 0-19 (ONONDAGA) 20-40 (ANCASTER & INDIAN RESERVE) 40 - (GLANBROOK)	NONE	NONE
17	TOWN OF HALDIMAND TOWNSHIP OF GLANBROOK	YES	YES	YES	20-30	LOCALLY INTERMIXED	NO	20-30	45-60	10-30	PREDOMINANTLY CLASS 2 SMALL AREA OF CLASS 1	LIMITED	PREDOMI-NANTLY >80 SOME 60-79	<3000	PREDOMI-NANTLY <300 3-599 (GLANBROOK)	>9 (HAMILTON)	PRE-DOMINANTLY 20-40 40 - (GLANBROOK)	NONE	NONE
18	TOWNSHIP OF GLANBROOK TOWNSHIP OF WEST LINCOLN TOWNSHIP OF WAINFLEET TOWN OF PELHAM CITY OF WELLAND CITY OF PORT COLBORNE	YES	YES	YES	20-30 (WEST PORTION) >30 (EAST PORTION)	UNIFORM UNIFORM	NO	5-20	30->75	<10-30	PREDOMINANTLY CLASS 2 SOME AREAS OF CLASSES 1,3 & 4	CONCEN-TRATED (SOUTH EASTERN PORTION)	PRE-DOMINANTLY >80 60-79 (WESTERN & SOUTH-EASTERN PORTIONS 40-59 & <40 (EASTERN EDGE)	PREDOMI-NANTLY <3000 3-5999 (PELHAM)	PREDOMI-NANTLY 3-599 6-899 (PELHAM) <300 (PORT COLBORNE)	-2 PORT COLBORNE) <1 (WELLAND) +2 (SMITHVILLE)	PRE-DOMINANTLY 20-40 40 - (GLANBROOK)	NONE	YES (SOUTHEAST PORTION OF CANDIDATE AREA)
19	CITY OF WELLAND CITY OF NIAGARA FALLS	YES	YES	YES	20-30	UNIFORM	NO	5-10	60-75	<10	CLASS 2 & CLASS 3	LIMITED	<40	<3000	PRE-DOMINANTLY <300 3-599 (WELLAND)	+3 (NIAGARA FALLS) +5 (WELLAND)	0-19 (NIAGARA FALLS) 20-40 (WELLAND)	NONE	APPEARS IMMEDIATELY ADJACENT

EDIMAND INNVILLE F WEST LINCOLN F GLANBROOK	NO	YES	YES	PREDOMI-NANTLY 10-20 PORTION 20-30	LOCALLY INTERMIXED LOCALLY INTERMIXED	NO	15-30	30-75	10-30	PREDOMINANTLY CLASS 2 SOME CLASS 1	SCATTERED	PREDOMI-NANTLY >80 SOME 60-79	<3000	PREDOMI-NANTLY 3-599 <300 (HALDIMAND)	>9 (STONEY CREEK)	PRE-DOMINANTLY 20-40 40 - (GLANBROOK)	NONE	NONE	• AGRICULTURE • REGIONAL ACCESS • ATMOSPHERIC DISPERSION
F GLANBROOK F WEST LINCOLN COLN HAM	NO	YES	YES	10-20	UNIFORM	NO	10-20	30-60	<10-20	CLASS 1 & CLASS 2	CONCEN-TRATED (NORTH-EASTERN PORTION)	PREDOMI-NANTLY >80 60-79 (WESTERN PORTION) SOME 40-59	PREDOMI-NANTLY <3000 3-5999 (PELHAM) 6-8999 (LINCOLN & WEST LINCOLN)	PREDOMI-NANTLY 3-599 900 - (WEST LINCOLN & LINCOLN) 6-899 (PELHAM)	<4 (STONEY CREEK <1 (SMITHVILLE)	PRE-DOMINANTLY 20-40 SOME 40 - (GLANBROOK & LINCOLN)	NONE	NONE	• AGRICULTURE • ATMOSPHERIC DISPERSION
ONEY CREEK NCOLN F WEST LINCOLN	NO	YES	YES	10-20	UNIFORM	NO	10-15	30-60	<10-20	PREDOMINANTLY CLASS 2 SMALL AREAS OF CLASSES 1 & 4	SCATTERED	PREDOMI-NANTLY 40-59 SOME 60-79	PREDOMI-NANTLY 6-8999 3-5999 (STONEY CREEK)	PREDOMI-NANTLY 900 - 6-899 (STONEY CREEK) 3-599 (WEST LINCOLN)	<4 (STONEY CREEK) <5 (GRIMSBY) ·1 (SMITHVILLE) <4 (BEAMSVILLE)	0-19 (STONEY CREEK) 20-40 (WEST LINCOLN) 40 - (LINCOLN)	NONE	NONE	• AGRICULTURE • ATMOSPHERIC DISPERSION
F WAINFLEET	NO	YES	YES	10-20	UNIFORM	NO	5-15	>75	10-30	PREDOMINANTLY CLASS 1 SOME CLASS 3	SCATTERED	60-79	<3000	3-599	>4 (PORT COLBORNE) >5 (WELLAND)	20-40	NONE	NONE	• AGRICULTURE • PIPELINE ALIGNMENTS AND DISCHARGE SUITABILITY • REGIONAL ACCESS
F WAINFLEET T COLBORNE LAND	NO	YES	YES	10-20	UNIFORM	NO	5-10	>75	<20	PREDOMINANTLY CLASS 3 SMALL AREA CLASS 2	LIMITED	PREDOMI-NANTLY 40-59 SOME 60-79	<3000	<300 (PORT COLBORNE) 3-599 (WAINFLEET)	·2 (PORT COLBORNE) ·2 (WELLAND)	20-40	NONE	APPEARS IMMEDIATELY ADJACENT	• AGRICULTURE • ATMOSPHERIC DISPERSION • REGIONAL ACCESS • INDUSTRIALLY DESIGNATED LANDS
ROLD IAGARA FALLS RT ERIE	NO	YES	YES	10-20	UNIFORM	NO	5-10	60-75	<10	PREDOMINANTLY CLASS 3 SMALL AREAS OF CLASSES 2 & 7	LIMITED	<40	PREDOMI-NANTLY <3000 3-5999 (THOROLD)	PREDOMI-NANTLY <300 3-599 (THOROLD)	<1 (NIAGARA FALLS) <3 (FORT ERIE)	0-19 (NIAGARA FALLS) 40 - (FORT ERIE) 20-40 (THOROLD)	NONE	YES (NORTH AND SOUTH PORTIONS OF CANDIDATE AREA)	• ATMOSPHERIC DISPERSION • INDUSTRIALLY DESIGNATED LANDS • AREAS NOT IN AGRICULTURAL USE • PIPELINE ALIGNMENT AND DISCHARGE SUITABILITY

ALL COMPONENTS

SISSAUGA MPTON	YES	YES	YES	20-30	LOCALLY INTERMIXED	NO	15-20	30-45	<10	CLASS 1	LIMITED	<40 (MISSISSAUGA) 40-59 (BRAMPTON)	>9000	3-599	<1 (BRAMPTON & MISSISSAUGA)	0-19 (MISSISSAUGA) 40 - (BRAMPTON)	NONE	ADJACENT	• PLANNED AND PROPOSED LAND USES • ATMOSPHERIC DISPERSION • INDUSTRIALLY DESIGNATED LANDS • SEWAGE TREATMENT FACILITIES • PIPELINE ALIGNMENT AND DISCHARGE SUITABILITY
LTON	YES	YES	YES	20-30	UNIFORM	NO	10-20	<15	<10-20	CLASS 1	LIMITED	60-79	3-5999	6-899	·2 (MILTON)	20-40	NONE	NONE	• ATMOSPHERIC DISPERSION • PLANNED AND PROPOSED LAND USES • AGRICULTURE • SEWAGE TREATMENT FACILITIES • PIPELINE ALIGNMENT AND DISCHARGE SUITABILITY
F ONONDAGA INDIAN RESERVE No. 40 NCASTER F GLANBROOK LDIMAND	YES	YES	YES	20-30	LOCALLY INTERMIXED	NO	20-40	30-60	<10-20	PREDOMINANTLY CLASS 1 SOME CLASS 2	SCATTERED	60-79 (NORTHERN PORTION) >80 (CENTRAL PORTION) <40 (SOUTHERN PORTION)	PREDOMI-NANTLY <3000 3-5999 (ANCASTER)	PREDOMI-NANTLY <300 3-599 (ANCASTER & GLANBROOK)	<7 (HAMILTON)	PRE-DOMINANTLY 0-19 (ONONDAGA) 20-40 (ANCASTER & INDIAN RESERVE) 40 - (GLANBROOK)	NONE	NONE	• ATMOSPHERIC DISPERSION • AGRICULTURE
LDIMAND F GLANBROOK	YES	YES	YES	20-30	LOCALLY INTERMIXED	NO	20-30	45-60	10-30	PREDOMINANTLY CLASS 2 SMALL AREA OF CLASS 1	LIMITED	PREDOMI-NANTLY >80 SOME 60-79	<3000	PREDOMI-NANTLY <300 3-599 (GLANBROOK)	>9 (HAMILTON)	PRE-DOMINANTLY 20-40 40 - (GLANBROOK)	NONE	NONE	• AGRICULTURE • REGIONAL ACCESS
F GLANBROOK F WEST LINCOLN F WAINFLEET LHAM LAND T COLBORNE	YES	YES	YES	20-30 (WEST PORTION) >30 (EAST PORTION)	UNIFORM UNIFORM	NO	5-20	30->75	<10-30	PREDOMINANTLY CLASS 2 SOME AREAS OF CLASSES 1,3 & 4	CONCEN-TRATED (SOUTH EASTERN PORTION)	PRE-DOMINANTLY >80 60-79 (WESTERN & SOUTH-EASTERN PORTIONS 40-59 & <40 (EASTERN EDGE)	PREDOMI-NANTLY <3000 3-5999 (PELHAM)	PREDOMI-NANTLY 3-599 6-899 (PELHAM) <300 (PORT COLBORNE)	·2 PORT COLBORNE) <1 (WELLAND) ·2 (SMITHVILLE)	PRE-DOMINANTLY 20-40 40 - (GLANBROOK)	NONE	YES (SOUTHEAST PORTION OF CANDIDATE AREA)	• AGRICULTURE • REGIONAL ACCESS • ATMOSPHERIC DISPERSION • INDUSTRIALLY DESIGNATED LANDS
LAND IAGARA FALLS	YES	YES	YES	20-30	UNIFORM	NO	5-10	60-75	<10	CLASS 2 & CLASS 3	LIMITED	<40	<3000	PRE-DOMINANTLY <300 3-599 (WELLAND)	·3 (NIAGARA FALLS) ·5 (WELLAND)	0-19 (NIAGARA FALLS) 20-40 (WELLAND)	NONE	APPEARS IMMEDIATELY ADJACENT	• INDUSTRIALLY DESIGNATED LANDS • ATMOSPHERIC DISPERSION • LANDS NOT IN AGRICULTURAL USE • SEWAGE TREATMENT FACILITIES